

SEXOLOGY

MALE SEXUAL ANATOMY

Structure of the penis:

- The penis is formed of 2 dorsally placed corpora cavernosa and a ventral corpus spongiosum containing the urethra.
- The glans penis is the expanded distal end of the corpus spongiosum.
- Erection is the function of the corpora cavernosa, which are covered by a tough tunica albuginea. The cavernous spaces of the corpora cavernosa are interconnected blood sinusoids lined by endothelial cells and surrounded by smooth muscle fibres.

Arterial supply:

The penis is supplied by the internal pudendal artery, which has the following terminal branches:

- Dorsal artery: supplying the glans penis and skin
- Spongiosal/ urethral artery: supplying the corpus spongiosum and urethra.
- Cavernosal artery: supplying the corpora cavernosa.
- Bulbar artery: supplying the bulb.

Venous drainage:

The penis is drained at 3 venous levels:

- Superficial system, which is formed by the superficial dorsal vein draining the skin and subcutaneous tissue and terminating into the saphenous vein.
- Intermediate system: Deep dorsal vein draining the distal corpora cavernosa into the peri-prostatic venous plexus. It receives emissary veins and circumflex veins.
- Deep system: Cavernosal and bulbo-urethral veins drain proximal corpora cavernosa and the corpus spongiosum into the internal pudendal vein.

Nerve supply:

1. Somatic: Pudendal nerve ($S_{2,3,4}$)
 - Sensory: skin of the penis.
 - Motor: Bulbocavernosus and ischiocavernosus muscles.
2. Autonomic
 - Sympathetic ($T_{12} - L_2$)
 - Parasympathetic ($S_{2,3,4}$)

SEXUAL RESPONSE CYCLE

Sexual arousal can be initiated by a variety of sexual stimuli including visual, auditory, olfactory, imaginative, memorizing and tactile. If such stimuli are perceived as being sexual, they lead to the following changes:

		In males	In female
<u>1- Excitation phase</u>	Genital changes:	Penile erection	Vaginal transudation Bartholin gland secretion Retraction of labia minora Erection of clitoris
	Extragenital changes	increase in heart rate, blood pressure, respiratory rate and depth and skeletal muscle tone. Additionally females may also develop sexual flush and nipple erection.	
<u>2- Plateau phase:</u>		sexual excitation changes are maintained at their maximum during intercourse. This phase lasts for about 2 - 5 minutes	
		Shorter	Longer
<u>3- Orgasmic phase</u>	the pleasure felt at the climax of sexual connection.		
	only one orgasm per one sexual response cycle	can be multi-orgasmic	
	Ejaculation	Rhythmic involuntary contraction of pelvic floor, perineal and perivaginal muscles (occasionally the uterus)	
<u>4- Resolution phase</u>		subsidence of all the changes that occurred during sexual excitation.	
		Rapid	Gradual
<u>5- Refractory period</u>	In which whatever intense the sexual stimulus there can never be similar response		
	present and its duration depends on the age, psychological state and general health.	Absent	

PHYSIOLOGY OF ERECTION AND EJACULATION

A-Erection

- From the neurological point, there are 2 type of erection:
 - a. Psychogenic erection: If visual, auditory, olfactory, memorizing or imaginative stimuli are integrated in the limbic system as being sexual, descending tracts pass through the sympathetic outflow of T₁₂-L₂.
 - b. Reflexogenic erection: Tactile stimulation of the genital area sends afferent impulses along the pudendal nerve, which reach the sacral segments S₂₋₄ the efferent impulses of which are parasympathetic.
- The neurological impulses lead to erection by mediating the following vascular response:
 - a. Maximum dilatation cavernosal artery.
 - b. Relaxation of smooth muscle fibres around the cavernous spaces of the corpora cavernosa.
 - c. Passive venous occlusion results from compression of small venules between the expanding cavernous spaces as well as the emissary and sub-tunical veins under the tunica albuginea.
- Phases of penile erection
 - a. Flaccid phase
 - b. Initial filling phase
 - c. Tumescence phase
 - d. Full erection phase
 - e. Rigid erection phase
 - f. Detumescence phase
- Sequence of events during erection

Under resting conditions (flaccid):

- Sympathetic tone ⇒ Tonic contraction of smooth muscles of the penis
- The diameter of the cavernosal artery = 0.5 mm
- The blood flow velocity = not more than 15 cm/seconds

During sexual stimulation:

- Release of endothelial factors & neurotransmitters ⇒ relaxation of the smooth muscles of the cavernous tissue & arteries
- The diameter of the cavernosal artery = 1 mm
- The blood flow velocity = above 30 cm/seconds.
- This is the initial filling phase which will then lead to the tumescence and the full erection phase afterwards
- Dilatation of the cavernous spaces ⇒ compression of the subtunical venous plexus and the emissary veins being trapped between the

two layers of the tunica albuginea \Rightarrow additional decrease in the venous flow.

- These changes \Rightarrow a steady increase of the intracorporeal blood pressure to reach above the diastolic blood pressure (Tumescence phase) then to 90% of the systolic pressure (Full erection phase).
- Dorsal nerve stimulation during coitus \Rightarrow contraction of the ischiocavernosus muscle \Rightarrow more venous compression and consequently more rise of the intracavernosal pressure to above the systolic blood pressure. This is the phase of rigid erection.
- During this phase there is no blood inflow and the penis becomes a completely closed space. Its short duration due to muscle fatigue prevents ischemia and tissue damage.

B-Ejaculation

- **Ejaculation is sympathetically mediated and involves 2 phases:**

1. Emission phase: Contractions of the wall of the prostate, seminal vesicles, cauda epididymis and vas deferens expel their contents into the prostatic urethra (sympathetic T₁₂, L_{1,2,3}).
2. Contraction of internal sphincter:

Antegrade ejaculation phase: Semen is expelled from the prostatic urethra to the outside after bladder neck closure (sympathetic and somatic). It depends on the contraction of the pelvic floor muscles in addition to the ischiocavernosus & the bulbocavernosus muscles (each contraction is about 0.8s)

ERECTILE DYSFUNCTION

Definition: The persistent inability of the male to obtain and/or maintain a quality of erection sufficient to permit coitus to be initiated and/or completed.

Etiology

- ED is either due to psychogenic or organic disorders.
- Psychogenic factors were previously thought to dominate (95%).
- Following the recent progress in diagnostic techniques, more than 60% of ED cases have ED-related organic problems

Psychogenic ED

1. Developmental factors

Gender identity conflict
Traumatic childhood experience
Negative family attitude towards sex (religious or social)
Paternal & maternal dominance
Homosexuality
Oedipal complex

2. Interpersonal factors

Divergent sexual preferences
Excessive hatred
Dislike female figure
Distrust of the partner
Marital relationship conflicts

3. Affective factors

Anxiety
 Depression
 Guilt
 Phobia e.g.pregnancy, STDs and failure.

4. Cognitive factors

Sex ignorance
 Misinterpretation about articles, books or talks about sex
 Acceptance of cultural and religious orders

Organic ED**Vascular causes**

Arterial disorder Atherosclerosis, Embolism, Trauma, Leriche Syndrome
Venous disorder: venous leakage (failure of corporal veno-occlusive mechanism)
Cavernous space disorder: fibrosis (post-priapism) & Peyronie's disease

Neurogenic causes

Central:cerebro-vascular accident,multiplesclerosis, spinal cord injury, etc
Peripheral:peripheral neuropathy

Endocrinal causes

1- Diabetes mellitus (due to neuropathy, atherosclerosis,micro-angiopathyor psychogenic)
 2- Hypogonadism e.g. Klinefelter syndrome
 3- Hyperprolactinemia
 4- Myxedema

Drug-induced

Antihypertensives
Psychoactive drugs: high dose of major tranquilizers and antidepressants.
Addictive agents: alcohol, marijuana, and heroin.
Estrogen & antiandrogens

Systemic disorders

Liver, renal and heart failure

Diagnosis of ED

1- **History Taking** :to differentiate organic from psychogenic ED and to determine the etiology and of organic ED.

	PSYCHOGENIC ED	ORGANIC ED
<i>Onset</i>	Usually sudden	Usually gradual
<i>Course</i>	Usually intermittent	Usually progressive
<i>Duration</i>	Usually short	Usually long
<i>Morning erections</i>	Present & good quality	Absent or weak
<i>Erection at non-coital occasions</i>	Present	Absent
<i>History of HTN, DM, etc</i>	Less frequent	Usually positive

2- Examination

GENERAL	LOCAL
<u>Endocrinal:</u> Secondary sex characters and gynecomastia	<u>Penis:</u> Peyronie's disease, penile size, pulse and urethral orifice
<u>Vascular:</u> BP and pulse	<u>Scrotum:</u> Testis size and consistency
<u>Neurological:</u> Sensations and reflexes	<u>PR:</u> Prostate and seminal vesicles
<u>Others: e.g. surgical scars</u>	Cremasteric reflex Scrotal reflex Bulbocavernosus reflex

3- Diagnostic Procedures For ED:

A) Laboratory Investigations

All ED patients must be subjected to:

- Fasting and post-prandial blood sugar,
- Serum testosterone and prolactin level.

According to clinical suspicion, some patients may need:

- Liver function tests
- Renal function tests
- T₃ - T₄ - TSH level

B) Nocturnal Penile Tumescence (NPT) Monitoring

Normally, during rapid eye movement (REM) stage of sleep, penile erections occur. In adolescents, this happens 4-5 times per night (duration of 15-20 min each). It tends to decrease in duration and frequency with age.

Eliciting the occurrence of these erections during sleep helps to differentiate organic from psychogenic ED. This can be done using:

- Regiscan: This is the most precise method that detects the frequency, degree of rigidity and the duration of nocturnal penile erections.

C) Penile Vascular Studies

➤ Intracavernous Injection (ICI) Test:

- This is a screening test for vasogenic ED
- Normally, injection of certain vasodilator agents (e.g. Prostaglandin E₁, papaverine or phentolamine) into the corpora cavernosa leads to full rigid erection this erection starts within 10 min. and lasts for more than 30 min.
- The occurrence of this response is a good positive test that penile haemodynamics are normal.
- In arterial problems: Delay in the onset of erection occurs
- In venous leak: Unsustained erection (< 30 min.) occurs.

- In neurogenic ED: prolonged erection and priapism occur even with the smallest doses of vasoactive agents due to denervation hypersensitivity.
- **Confirmatory Tests For Penile Arteriogenic ED:**
 - Evaluation of penile arteries is indicated if no or delayed erection occurs in the ICI test.
 - A. Duplex ultrasonography: This is the method of choice for evaluation of the penile arteries. It allows measurement of diameter and blood velocity in the cavernosal artery before and after injection of the vasoactive drugs.
 - Normal cavernosal arteries show:
 - a. Peak systolic velocity more than 25 cm/sec.
 - b. Diameter increase after ICI by more than 75%
 - B. Selective internal pudendal angiography: This is an invasive procedure performed only before arterial surgery.
- **Confirmatory Tests For Venogenic ED:**
 - These are indicated if a venous leak is suspected by:
 - No or unsustained erection in the ICI test.
 - Duplex shows normal cavernosal arteries with elevated end diastolic velocity more than 5 cm/sec.
 - Cavernosometry: Saline is injected intracavernously (after ICI) at a rate that induces and maintains a rigid erection (I.C. pressure = 150 mm Hg).
 - Normally:
 - Induction rate is less than 40 ml/min.
 - Maintenance rate is less than 15 ml/min.
 - The rate of drop in I.C. pressure after stopping infusion is less than 40 mm Hg in the first half minute.
 - In venous leak, there are higher figures especially the drop of I.C. pressure.
 - Cavernosography: If cavernosometry shows venous leak, intracorporal radio-opaque dye is injected and X-ray is done to demonstrate the leaking veins.
- **Neurological evaluation**
 - Biothesiometry A biothesiometer is a vibration sense-measuring apparatus that can be used for screening of sensory deficit.
 - Dorsal nerve somato-sensory evoked potential Electrical stimulation of the dorsal nerve of the penis followed by recording the evoked EEG waveforms over the sacral cord and cerebral cortex helps to diagnose sacral and suprasacral sensory lesions.

Treatment of ED

Choice Of Treatment Depends Upon

- Etiology
- Age of the patient / Spouse
- Associating disease
- Availability
- Cost
- Choice of the patient

Management of the cause e.g.

- Specialized psychiatric treatment for deep psychic ED
- Quit smoking, alcohol and addiction
- Control DM, hypertension, etc
- Testosterone or gonadotropins for hypogonadism
- Bromocriptine for hyperprolactinemia
- Switching to safe medications in drug-induced ED

Sex Therapy

Indications: Treatment of performance anxiety in psychogenic ED

Principles of sex therapy:

- Sex education.
- Mutual responsibility about any sexual disorders.
- Establishment of proper physical and psychological stimulation.
- Elimination of marital relationship difficulties.
- Systemic desensitization "Master and Johnson's technique" "Sensate focus" - stages

Medical Treatment

- Empirical treatment
 - Aphrodisiac
 - Herbals and other forms of primitive medicine
 - Androgens: Testosterone
- Phosphodiesterase inhibitors
 - selective cavernous tissue dilator
 - contraindicated in cardiac patients receiving nitrates.
 - Sildenafil (Viagra), Vardenafil (Levitra), Tadalafil (Cialis)
- Alpha adrenergic blockers
 - Yohmbine :presynaptic α_2 blocker
 - Phentolamine: α_1 & α_2 blocker
- K channel openers: Minoxidil
- Opioid receptor antagonist: Naltrexone
- Dopamine receptor agonists
 - Trazodone
 - Apomorphine

- Beta-adrenergic stimulant: Isoxupine

Intracavernous Injections (ICI) Therapy

The patient is trained at ICI self-injection that can be used before a desired intercourse. Prostaglandin E₁, papaverine and phentolamine can be used separately or in combination.

Indications:

- Psychogenic ED
- Mild vascular ED

Complications:

- Prolonged erection(2-6 h)
- Priapism(>6h) treated by repeated aspiration of blood from the corpora± ICI of sympathomimetic (ephedrine). If erection persists shunt operation may be done
- Penile pain
- Corporal fibrosis

Transurethral Alprostadil

Using a special applicator, PGE pellet can be introduced trans-urethrally to induce penile erection. Although results are inferior to the intracavernous injection therapy patients who are not happy with self-injection may prefer this line of treatment.

External Vacuum & Constriction Devices

The idea of this type of treatment is to:

- Induce erection using a vacuum device
- Maintain erection using a rubber band applied to the base of the penis

Surgical Management

1- Penile Vascular surgery

In Arteriogenic ED:

- Proximal arterial disease: internal iliac reconstruction
- Distal arterial disease: anastomosing inferior epigastric artery to penile arteries

In Venogenic ED:

- Ligation of deep dorsal vein with its tributaries in addition to the cavernosal and crural veins
- Arterialization of the deep dorsal vein using the inferior epigastric artery

2- Penile prosthesis

Artificial cylinders or rods are placed in the corpora cavernosa to induce an erection-like state.

Indications: All intractable causes of ED in which other lines of treatment failed or simply unavailable:

Advanced diabetic ED

- Venogenic ED
- Neurogenic ED
- Post-priapism ED
- Peyronie's disease
- Longstanding resistant psychogenic ED

Types:

- Rigid prosthesis (obsolete)
- Malleable rods (popular)
- Inflatable prosthesis

EJACULATORY DYSFUNCTION

PREMATURE EJACULATION	RETARDED EJACULATION
<p>Definition Inability of the male to control his ejaculatory reflex so that he can satisfy his wife in at least 50% of their coital connections.</p>	<p>Definition Inability of the male to reach orgasm intravaginally despite an adequate erection quality.</p>
<p>Incidence A very common condition affecting around 40% of patients</p>	<p>Incidence Uncommon problem</p>
<p>Etiology</p> <p><u>Psychogenic causes (>90%)</u></p> <p>1- <i>Conditioned prematurity</i>: This occurs when the early sexual experiences have been with prostitutes, through petting or chronic heavy masturbation.</p> <p>2- <i>Subconscious hatred towards females</i>.</p> <p>3- <i>Anxiety and over concern about partner satisfaction</i>.</p> <p>4- <i>Unresolved marital problems</i>.</p> <p><u>Organic causes (<10%)</u></p> <ol style="list-style-type: none"> 1. Chronic pelvic congestion e.g. chronic prostatitis 2. Drug-induced e.g. sympathomimetics 3. Neurological disorders e.g. hypersensitive glans penis, MS and neuropathies 	<p>Etiology</p> <p><u>Psychogenic causes</u></p> <p>1- <i>Obsessive compulsive personality</i></p> <p>2- <i>Repressed hostility</i></p> <p>3- <i>Phobias</i> e.g.</p> <ul style="list-style-type: none"> ▪ Fear of pregnancy ▪ Religious guilt feelings ▪ Fear of soiling the partner with semen ▪ Oedipal fears of retaliation <p><u>Organic causes</u></p> <ol style="list-style-type: none"> 1. Drug-induced e.g. narcotics, sympatholytics and alcohol, 2. Neurological disorders e.g. neuropathies and spinal cord injury

Treatment**1- Minimizing penile receptivity:**

- Condom
- Local anesthetics
- Distractive thinking

2- Sex therapy

- Squeeze technique:

Wife stimulates the penis then squeezes the glans firmly when the husband is about to ejaculate. The cycle is repeated several times.

- Start-stop technique:

Stimulation is stopped before ejaculation is inevitable and then resumed once more.

3- Drugs:

- SSRIs (selective serotonin reuptake inhibitors)
- Anafranil

Treatment**1- Sex therapy**

- Sensate focus exercises.
- Desensitization by allowing the patient to masturbate up to ejaculation on his own first, then with his wife, then outside the vagina to resolve his fear of intravaginal ejaculation then finally normal intravaginal ejaculation is tried.

2- Electro-vibratory stimulation:

This is done to obtain semen sample to be used for artificial insemination when fertility is desired.

MALE INFERTILITY

Introduction

- The testis has two functional compartments:
 1. The seminiferous tubules containing the germ cell population and the Sertoli cells.
 2. The interstitial compartment containing Leydig cells
- The hypothalamus secretes (GnRH) stimulating the pituitary gland to secrete:
 - FSH: stimulates Sertoli cells to produce androgen binding protein (ABP) and inhibin.
 - LH: stimulates Leydig cells to produce testosterone.
- ABP carries testosterone to the seminiferous tubules to stimulate spermatogenesis, which proceeds as follows:
 - ☒ Spermatogonia (46 chromosomes) divide mitotically giving rise to primary spermatocytes (46 chromosomes), which undergo meiosis to be transformed into secondary spermatocytes (23 chromosomes) then to spermatids (23 chromosomes).
 - ☒ Spermatids are round cells that undergo a process called spermiogenesis, which is a metamorphosis to give rise to the

spermatozoon, which have the characteristic shape (head, midpiece and tail).

- From the lumen of the seminiferous tubules, sperms pass to the rete testis then along the vasa efferentia to the epididymis.
- The epididymis is a single highly convoluted tubule, about 5-6 meters long. Sperm transport in the epididymis takes 2-3 weeks, a period essential for sperm maturation.
- At ejaculation, spermatozoa stored in the tail of the epididymis are expelled by the peristaltic waves along the vas deferens to the posterior urethra.
- Seminal plasma volume is mainly formed by the seminal vesicles (60%) and the prostate (30%). The spermatozoa and the epididymal plasma form the remaining 10%.

DEFINITION OF INFERTILITY

- Infertility is defined as a childless marriage after at least one year of regular unprotected sexual relation.
- Infertility in males can be either:
 - Primary: if the man has never been able to induce conception of his wife.
 - Secondary: if infertile man has previously been able to impregnate his wife.

AETIOLOGY

Pre-testicular Causes	Hormonal disorders	Hypothalamus, pituitary, thyroid & suprarenal
	Systemic disorders	Hepatic, renal, malignancy, etc
Testicular Causes	Congenital	Klinefelter syndrome Sertoli cell only syndrome Cryptorchidism
	Traumatic	Excess heat exposure Irradiation gonadotoxins
	Inflammatory	Mumps orchitis
	Neoplastic	Testicular tumors
	Vascular	Varicocele Testicular torsion
Post-testicular Causes	Mechanical infertility Obstructive infertility Immunological infertility	

Male accessory sex gland infections

Another classification is to divide the causes of male infertility under 3 main headings: functional, obstructive and mechanical.

A. Functional infertility This includes causes of defective sperm production and function.

- a. Congenital: e.g.
 - Klinefelter syndrome
 - Sertoli cell only syndrome
 - Undescended testis
- b. Traumatic e.g. Torsion testis
- c. Inflammatory e.g. mumps orchitis and prostates-vesiculitis
- d. Endocrinal:
 - Pituitary disorder e.g. hypogonadotropic hypogonadism and hyperprolactinemia
 - Thyroid disorder e.g. myxedema
 - Adrenal disorder e.g. adrenogenital syndrome
- e. Drugs and chemicals e.g.
 - Anti-mitotic and cytotoxic drugs
 - Hormones: estrogen, anti-androgens and testosterone
 - Irradiation: Gamma rays, X-ray and large dose ultrasound .
 - Excess heat exposure: occupational or pathological .
- f. Immunological: Anti-sperm antibodies.
- g. Varicocele.

Definition	Varicocele is the dilatation, elongation and tortuosity of the veins draining the testis (especially pampiniform plexus of veins).
Types	<ul style="list-style-type: none"> ○ <u>Primary</u> (affecting about 20 % of male population): caused by congenital weakness of the smooth muscles in the wall of veins and incompetence of their valves ○ <u>Secondary</u>: varicocele is due to increased venous pressure secondary to abdominal tumor (hypernephroma)
Symptoms	<ul style="list-style-type: none"> • Usually asymptomatic • Infertility • Testicular pain mostly related to sex congestion
Relation to fertility	<p>Not all varicocele patients are infertile.</p> <p>Varicocele can affect semen picture and lead to infertility via:</p> <ol style="list-style-type: none"> 1. Disturbance of testicular thermoregulation with increased intra-testicular temperature 2. Reflux of the renal and suprarenal metabolites (e.g.

	<p>catecholamines) into the testis through incompetent valve between left internal spermatic and renal veins</p> <p>3. Hypoxia of testicular tissue</p> <p>4. Epididymal dysfunction</p>
Examination	<p>Varicocele can be bilateral but it usually occurs more on left side due to:</p> <ul style="list-style-type: none"> ▪ Left testis is more dependent ▪ Left testicular veins opens into the left renal vein perpendicularly, while the right one opens in the inferior vena cava obliquely ▪ Compression of the left renal vein between left renal artery and superior mesenteric artery
Grades	<p><u>Grade I</u>: Palpable thrill with Valsalva's maneuver</p> <p><u>Grade II</u>: Palpable dilated veins feel like a "bag of worms"</p> <p><u>Grade III</u>: Veins are dilated to the degree that makes them visible.</p>
Investigations	<ul style="list-style-type: none"> ☒ Doppler and Duplex ultrasound ☒ Scrotal thermography ☒ Venography ☒ Scrotal Scintigraphy
Treatment	<p><u>Conservative</u>: No treatment is required if the patient is asymptomatic and varicocele is not affecting semen picture or testicular size</p> <p><u>Surgery</u>:</p> <ul style="list-style-type: none"> • Varicocelectomy is indicated if the patient presents with orchalgia or infertility. • Surgical ligation of the varicocele is performed via a high retro peritoneal, inguinal or subinguinal approach. • Improvement in semen parameters and pregnancy rate occur within 2 years postoperative in about two thirds of patients

B. Obstructive infertility This refers to defective sperm transport due to one of the following causes:

- a. Congenital e.g.
 - Bilateral absent vas deferens
 - Ejaculatory duct obstruction
- b. Traumatic e.g.
 - Vasectomy for male contraception
 - Accidental during hernia operation in childhood
- c. Post-inflammatory e.g. Post-epididymitis fibrosis

C. Mechanical infertility This refers to normal sperm production, function and transport but the problem is failure of sperm deposition in the posterior vaginal fornix and its transport along the cervical canal .

Sexual disorders	Anatomical disorders
Erectile dysfunction Severe premature or retarded ejaculation	Perineal hypospadias

Another classification based on clinical approach based on semen

- **Azoospermia**
 - Obstructive
 - Non-obstructive
- **OAT oligoasthenoteratozoospermia**
 - Milder forms of defective sperm production
 - Partial / unilat obstruction
 - Common causes
 - Varicocele
 - Genital tract infection
- **Normal semen**
 - Idiopathic infertility
 - Female factors
- **Isolated defects**
 - Low semen volume
 - Necropermia and immotile sperm
 - Absolute isolated Teratozoospermia
 - Hyperviscosity

DIAGNOSIS OF MALE INFERTILITY

HISTORY TAKING

Personal history

- Type of infertility: primary or secondary (consider date of the last childbirth or abortion)
- Duration of infertility (consider previous use of contraceptives and long periods without sexual relation)
- Occupation (heat, irradiation or chemical exposure)
- Residence (endemic diseases)
- Special habits (smoking, alcoholism and addiction)

Sexual history

- Age of puberty
- Frequency of sexual intercourse
- ED and severe premature ejaculation (mechanical infertility)
- Previous use of contraceptives or postcoital antiseptics

Past history

- Drugs related to infertility e.g. Antimitotics, estrogen, androgen, antiandrogen, colchicine, cimitidine, nitrofurantoin, propranolol, etc
- Operations related to infertility:
 - 1) *Retroperitoneal surgery may lead to anejaculation.*
 - 2) Inguinal herniotomy may lead to injury of the vas.
 - 3) Bladder neck operations may cause anejaculation
- History of diseases & conditions related to infertility:
 - Bilharziasis (epididymal obstruction)
 - Epididymo-orchitis (epididymal obstruction)
 - Tuberculosis (multiple epididymal and vasal obstruction)
 - Mump orchitis (destroy the germ cells)
 - Undescended testis (functional infertility)

EXAMINATIONGeneral examination:

- Male secondary sexual characters (hair distribution, voice, muscle development, fat distribution, height : span ratio)
- Gynecomastia

Local examination:

- Penis: urethral orifice (hypospadias and epispadias may cause mechanical infertility)
- Testis: if palpable or not, its size and consistency
- Epididymis: epididymal nodules denote obstruction
- Vas deferens: if present or absent and if it is beaded (T.B)
- Spermatic cord: for the presence of varicocele
- PR examination: for prostate (size, consistency and surface regularity) and seminal vesicles (normally not felt)

INVESTIGATIONSA-Semen analysis**Normal semen Parameters****1. Physical characters**

- Color: grayish-white
- Volume: 2-5ml
- PH: Alkaline
- Liquefaction time: normally semen forms a coagulum at ejaculation and liquefies in less than 30 minutes

2. Microscopic examination:

- Sperm count: more than 20 millions/ml and less than 250 millions/ml
- Sperm motility: 50% or more of the spermatozoa show active forward progression after 2 hours of ejaculation
- Sperm morphology: abnormal forms is less than 35%

3. Biochemical markers (not routine): Determination of some semen markers may be of help in some clinical conditions e.g.

- Fructose estimation (seminal vesicle marker) may be requested if bilateral congenital absence of the vas deferens is suspected.
- L-Carnitine estimation (epididymal marker) may help differentiating pre from post-epididymal obstruction

Abnormalities of Semen Analysis

1. Abnormal Physical Parameters:

- a. Color disorders:
 - Deep yellow (infection, jaundice)
 - Red or brown (hemospermia)
- b. Volume disorders:
 - Aspermia: absence of the semen at ejaculation
 - Hypospermia: low semen volume (less than 2 ml)
- c. Non-liquefied or delayed liquifaction: due to prostatic dysfunction.

2. Abnormal Microscopic Parameters:

- a. Azoospermia: absence of sperm in semen
- b. Oligozoospermia: sperm count less than 20 million /ml
- c. Polyzoospermia: sperm count more than 250 million / ml (usually associated with poor sperm motility)
- d. Asthenozoospermia: sperm motility less than 50% after 2 hours
- e. Teratozoospermia: abnormal sperms more than 35%

Advanced semen analysis

- Computer aided semen analysis (CASA)
 - Advantages objective - new parameters (velocity)
- Staining for pus cells (leukocytospermia) Culture for pathogenic bacteria
- Supravital staining for vitality
- Electron Microscopy
- Sperm Function Tests
 - Hypo osmotic swelling test (HOS)
 - Acrosome reaction
 - Zona free hamster ova penetration assay
 - Chromatin decondensation

Causes of Azoospermia:

- Functional azoospermia: failure of sperm production by the testis. Treatment is directed towards the cause but usually ICSI is required.
- Obstructive azoospermia: failure of sperm transport due to bilateral obstruction of epididymis, vas deferens or ejaculatory ducts. Treatment is designed to by pass the obstructed part

How to differentiate obstructive from functional azoospermia ?		
	Functional	Obstructive
Testis size	Small or normal	Normal size
FSH level	Elevated (testicular cause) Reduced (pre-testicular cause)	Normal level
Testis biopsy	Abnormal spermatogenic picture e.g. <ul style="list-style-type: none"> ▪ Maturation arrest ▪ SCO picture ▪ Tubular hyalinization 	Normal spermatogenesis

Causes of Oligozoospermia

- Idiopathic
- Varicocele
- Unilateral undescended testis
- Heat exposure
- Small doses of radiation and gonadotoxins
- Unilateral obstruction
- Bilateral partial obstruction

Causes of Asthenozoospermia

- Asthenozoospermia is usually associated with oligozoospermia when it shares the same causes.
- Isolated asthenozoospermia:
 - a) Immotile cilia syndrome
 - b) Chronic prostatitis
 - c) Antisperm antibody

Causes of teratozoospermia

- Idiopathic
- Varicocele
- Gonadotoxins

Causes of Aspermia (absence of seminal fluid at orgasm)

- 1) Retrograde ejaculation: Instead of going out of the urethral orifice, semen passes backwards to the bladder due to a bladder neck disorder that may occur after prostatectomy or advanced diabetic neuropathy.
- 2) Secretory aspermia: lack of seminal fluid formation may be due to hypogonadism or post-inflammatory fibrosis of the prostate and seminal vesicles.
- 3) Non-emission and anejaculation: failure of the contraction of the prostate, seminal vesicles and vas at orgasm may occur due to sympathetic denervation after radical pelvic surgery.

Causes of Hemospermia (blood in semen)

- Bilharzial seminal vesiculitis
- Prostatic Calculi and cancer prostate
- Blood diseases and coagulation defects
- Hypertension

B-Hormonal Profile

C-Testicular biopsy

- Open biopsy - Needle biopsy
- Differentiate obstructive from non-obstructive azoosperma
- Histopathological types
 - Normal
 - Hyalinization
 - Sertoli cell only syndrome
 - Spermatogenic arrest
 - Hypospermatogenesis

D-Antisperm antibodies

- When to test for antibodies
 - Idiopathic infertility
 - Poor post coital test
 - Semen : athenospermia - auto agglutination - hyperviscosity

E-Imaging

- Scrotal US
 - Scrotal swellings (size and echogenecity of testis - hydrocele)
 - Varicocele (subclinical varicocele - confirmatory)
- Transrectal US
 - Low semen volume (Ejaculatory duct obstruction - CAV)
- Abdominal US
 - Undescended testis (may help in localisation) - CT / MRI
- Vasography
- Venography

TREATMENT OF MALE INFERTILITY**PROPHYLAXIS**

- Early surgery for undescended testis (before the age of 2 years).
- Early correction of testicular torsion (before 4 hours).
- Early management of urogenital infections.
- Avoidance of gonadotoxins e.g. irradiation, and gonadotoxic drugs.
- Cryopreservation of semen before cancer chemotherapy and radiotherapy.

THERAPEUTIC STRATEGIESMedical treatment

Specific Treatment (for specific disorders) e.g.	Non-specific Treatment (for idiopathic causes) e.g.
Bromocriptine (for hyperprolactinemia) Corticosteroids (for immune infertility) Antibiotics (for infection)	<ul style="list-style-type: none"> ▪ Androgen therapy ▪ Anti-estrogen therapy ▪ Human chorionic gonadotropin ▪ Human menopausal gonadotropin

Surgical treatment

Indication	Operation
Varicocele	Varicocelectomy
Epididymal tail obstruction	Epididymo-vasostomy
Vasal obstruction	Vasovasostomy
Undescended testis	Orchiopexy
Torsion testis	Detorsion and orchiopexy

Assisted Reproductive Technology (ART)

ART refers to all procedures that help to bypass barriers for successful fertilization. It is a last step in managing resistant and unexplained infertile males but sometimes it can be a first line especially in azoospermic cases.

1) Artificial insemination husband

Male Indications:

- a) Functional infertility: Oligozoospermia, Asthenozoospermia, Teratozoospermia, Low semen volume, Immune infertility, Retrograde ejaculation
- b) Mechanical infertility
 - Sexual problems (ED, retarded and severe premature ejaculation)
 - Anatomical problems (hypospadias)
- c) Unexplained infertility

Steps of AIH:

- 1) Induction and monitoring of ovulation
- 2) Semen processing e.g. by the "swim-up technique"
- 3) Methods of Insemination:
 - d) Intracervical insemination: for mechanical infertility and cases with low semen volume
 - e) Intrauterine insemination: In cervical hostility and immunological infertility.
 - f) Intra vaginal insemination (in cases of deposition failure)

2) In-vitro fertilization & embryo transfer (IVF-ET)

Mature oocytes are incubated into culture medium with processed sperms and after spontaneous fertilization embryos are transferred into the uterus. This method was mainly performed for cases with tubal obstruction with normal semen or mild semen parameter disorder.

NB: Gamete Intrafallopian Transfer (GIFT) and zygote Intrafallopian Transfer (ZIFT) are now considered as obsolete techniques.

3) Gamete micromanipulation

Gamete micromanipulation involves microscopic handling of sperms and ova to facilitate fertilization with the main advantage of reducing the number of

sperms needed to fertilize oocyte up to single sperm. These techniques include:

- Partial zona dissection (PZD) and Drilling (ZD): old methods involving interruption of zona pellucida to facilitate sperm entry.
- Subzonal insemination (SUZI): old method entailing placement of few sperms in the perivitelline space.
- Intracytoplasmic Sperm Injection (ICSI): This is most popular method in ART. As it requires only one viable sperm to inseminate one oocyte, it can be used in the severe semen parameter disorders up to azoospermia where sperms may be retrieved from the testis or epididymis.

Sexually transmitted diseases

Sexually transmitted diseases (STDs) refer to the group of infectious diseases, which predominantly spread through sexual contact.

EPIDEMIOLOGICAL ASPECTS OF STDs

By epidemiology is meant the study of various factors that affect the incidence and prevalence of a disease in a community.

Factors affecting prevalence and incidence of STDs include:

Host factors

- Age: STDs occur among the sexually active 15-35 years age group.
- Sex: Males tend to present to STDs clinics more than females.
- Marital status: Single people are more vulnerable than married.
- Special habits: STDs are more common among alcoholics and drug addicts.
- Occupation: Certain occupations are associated with STDs more than others e.g. barmen, night club workers, sailors, hairdressers, actors, taxi-drivers, etc
- Socioeconomic standard: STDs are less prevalent among moderate socioeconomic class people compared to very low and high ones.
- Medical condition: Patients having medical conditions that require repeated injections or blood transfusion (e.g. hemophilia) have a higher chance to develop blood-borne STDs.
- Religious attitude: Religious persons are less prone to develop STDs than others.

- Sex education and cultural level: Lack of knowledge and preventive methods of STDs, particularly among ignorant people, make them easy victims for STDs.
- Sexual orientation and preferences: Oro-genital sexual practice, homosexuality and other sexual preferences alter the classic presentation of most STDs.

Environmental factors

General community factors that favor the higher incidence and prevalence of STDs are:

- Lack of legislation against illegitimate sexual practice
- Poverty
- Development of new communities
- Modernization and industrialization
- Illegal prostitution
- Tourism

Agent factors

The prevalence of STDs in a community is affected by certain factors related to the causative agent e.g.

- Virulence of the organism (recently, there is increased prevalence of highly virulent strains)
- Rate of organism multiplication
- Susceptibility to chemotherapeutic agents (lack of effective antiviral agents)
- Antibiotic resistant strains (bacterial mutation and penicillinase production)
- Nutritional requirements of certain bacterial strains.

Prevention and control of STDs

Aim to : complete elimination or reduce incidence to low endemic levels

Methods:

- 1- Reduce exposure: delay sex exposure / reduce partners
- 2- Reduce transmission efficiency: Safe sex
- 3- Reduce duration of infectiousness: early detection and treatment of cases
- 4- Sex education - Contact Tracing

CLASSIFICATION OF STDs

According to the causative agent

Bacterial

Syphilis
Chancroid
Lymphogranuloma venerum

Viral

AIDS
Herpes progenitalis
Condyloma accuminata

Granuloma inguinale
Gonorrhea
Non-gonococcal urethritis

Molluscum contagiosum
Viral hepatitis B (and may be HCV)

Protozoal
Trichomonas vaginalis

Parasitic
Genital scabies

According to the clinical presentation

Ulcer syndrome

- Syphilis
- Chancroid
- Lymphogranuloma venerum
- Granuloma inguinale
- Herpes progenitalis

Urethral discharge syndrome

- Gonorrhea
- Non-gonococcal urethritis

Other local presentations

- Condyloma accuminata
- Molluscum contagiosum
- Genital scabies

Systemically presenting STDs

- AIDS
- Viral hepatitis B and C

STDs Causing an ulcer

STDs presenting by genital ulcers include:

1. Syphilis
2. Chancroid
3. Lymphogranuloma venerum
4. Granuloma inguinale
5. Herpes progenitalis

I. Syphilis

Caused by Treponema pallidum.

- Spirochete
- Spiral organism with regular coils.
- Moves in a "cork-screw" fashion.
- Cannot be grown on ordinary culture media.

Modes of transmission

(1) Sexual contact:

- In normal heterosexual relation: chancre develops on the genitals
- In orogenital sex: it develops on the lips or oral mucosa
- In homosexuals: it develops on the anus or within the anal canal

(2) Asexual contact: Chancre may develop on:

- Fingers of physicians examining lesions without gloves

- Breast of a woman lactating a congenitally syphilitic child
- (3) Trans-placental: from an infected pregnant mother to her fetus
- (4) Blood transfusion: Contaminated needles and blood transfusion introduces Treponema directly to the blood stream. The clinical presentation in such case will be by secondary stage lesions without a primary stage, a condition known as "Syphilis d'emblée".

Classification

ACQUIRED SYPHILIS		
Early infectious phase	Late non-infectious phase	
First 2 years of infection	After 2 years of infection	
stage <ol style="list-style-type: none"> 1. Primary stage 2. Secondary stage 3. Early latent stage 	<ol style="list-style-type: none"> 1. Late latent stage 2. Benign tertiary stage 3. Malignant tertiary stage: <ul style="list-style-type: none"> • Cardiovascular syphilis • Neuro-syphilis 	

CONGENITAL SYPHILIS		
Early infectious phase	Late non-infectious phase	<u>Stigmata</u> : Scars & deformities left after early and late lesions
First 2 years of life	From third year of life	Persist for life
<ol style="list-style-type: none"> 1. No primary 2. Secondary 3. Early latent 	<ol style="list-style-type: none"> 1. Late latent 2. Benign 3ry 3. Malignant 3ry <ul style="list-style-type: none"> • Cardiovascular • Neurosyphilis 	

Acquired Syphilis

Primary : chancre

- ☐ Genital (95%) or extra-genital (5%)
- ☐ starts as a macule → papule → ulcer (highly infectious)
 - Single
 - Painless
 - Rounded, well defined
 - Indurated base
 - Dull red floor with grayish scab
 - Spontaneous healing in 3-10 weeks → thin atrophic scar

Secondary

- Appears after few weeks
- Skin rash
- Mucous patches
- Condyloma lata
- Generalized lymphadenopathy
- Constitutional symptoms
- Others: Hepatitis, periostitis, meningitis,....etc.

Latenet stage serologically positive clinically free

- This is the period from the end of the secondary stage up to the end of the second year from the appearance of primary stage.
- Patients are clinically free but serologically positive.
- In this stage clinical and/or serological "relapses" may occur.
- Despite absence of clinical signs, this stage is infective (mainly by blood).
 - **Early Latent:** infective
 - **Late Latent:** non infective

Benign tertiary: (Gumma)

- Skin, M.M.
- Bones
- Viscera e.g. testis, liver, stomach

Diagnosis of syphilis

1. **Dark ground microscopy:** Exudate from the floor of chancre, from condyloma lata or lymph node puncture is examined under the dark ground microscope. Treponema pallidum appear luminescent with cork-screw motility.
2. **Serological tests:** These become positive only late in primary stage (50% are positive during the chancre stage and 100% are positive in the secondary stage). Serological tests are of two types:

Non-specific tests	Specific tests
<ol style="list-style-type: none"> 1. <u>Venereal disease research laboratory (VDRL) test</u> 2. <u>Rapid plasma reagin (RPR) test</u> 	<ol style="list-style-type: none"> 1. <u>Treponema pallidum hemagglutination antibody (TPHA)</u> 2. <u>Fluorescent Treponema antibody (FTA)</u> 3. <u>Treponema pallidum immobilization (TPI)</u>

These are used as screening tests.	These are used as confirmatory tests if the patient has positive non-specific test.
The patient's serum is tested against cardiolipin antigen	The patient's serum is tested against Treponemal antigens.
They give false positive results (e.g. in collagen diseases, leprosy, drug addicts, pregnancy, etc)	They give positive results only in Treponemal diseases

Treatment of syphilis

One of the following drugs can be used in the treatment of syphilis:

I- Procaine penicillin: 600,000 IU/day IM

- For 10 days (in early acquired syphilis)
- For 20 days (in late cases)

II- Benzathin penicillin: 2.4 million units IM

- For primary stage: single injection.
- For secondary stage: two injections separated by one-week interval.
- For tertiary stage: three injections separated by one-week interval.

III- Other antibiotics: if the patient is allergic to penicillin, we may give:

- Erythromycin: 500mg/6 hours for 15 days in early cases and for 30 days in late cases.
- Tetracycline: can be used in the same dose schedule (never in pregnant syphilitic women).

IV- Treatment of Congenital Syphilis: Procaine penicillin in a total dose of 50,000 IU/Kgm divided on 10 daily injections.

II. CHANCROID

Causative organism: Hemophilus ducreyii

Clinical presentation:

- IP: 2-5 days.
- Genital ulcer: Multiple small shallow painful ulcers that bleed easily on touch.
- Regional lymph nodes: Inguinal nodes are usually unilaterally affected, become acutely inflamed, swollen, tender and later get matted, suppurate

"abscess-like" and break down forming a sinus oozing pus "inflammatory bubo".

Diagnosis: Gram stained smear (gram negative bacilli) and culture.

Treatment: One of the following may be used:

Tetracycline:

- Oxytetracyclin 500mg/6 hours for 21 days.
- Doxycycline 100mg/12 hours for 21 days.
- Minocyclin 100mg/12 hours for 21 days.

Macrolides

- Erythromycin 500mg/6 hours for 21 days.
- Rulid 300mg/12 hours for 21 days.
- Zithromax

III. LYMPHOGRANULOMA VENERUM

Causative organism: Chlamydia trachomatis (serotype L_{1,2,3})

Clinical presentation:

- IP: 7-15 days.
- Genital ulcer: An initial papule or vesicle breaks down to an ulcer, which is usually transient disappearing in few days.
- Regional lymph nodes: Chlamydia spreads along lymph vessels leading to inguinal lymphadenopathy (usually bilateral). The enlarged lymph nodes get matted forming a sausage-shaped swelling below and above the inguinal ligament leaving a characteristic "sign of a groove" in between. When the nodes break down they open by multiple sinuses discharging semi-caseous material.
- Urethral discharge.
- Systemic symptoms: fever, headache, arthralgia, erythema nodosum and sometimes meningism.

Diagnosis: being an obligatory intracellular organism, chlamydia is diagnosed by:

- Giemsa-stained swab examination.
- Tissue culture on McCoy's medium.
- Direct immunofluorescence, PCR, ELISA.
- Frie's intradermal test

Treatment

- Erythromycin: 500mg/6 hours for 21 days.
- Tetracycline: 500mg/6 hours for 21 days.
- Doxycycline: 100mg/12 hours for 21 days.

IV. GRANULOMA INGUINALE

Causative organism: Calymmatobacterium granulomatis or donovanis (gram negative bacilli).

Clinical presentation:

- IP: 2-6 weeks.
- Genital ulcer: Granulomatous lesions develop on the genitals breaking down into ulcers with velvety appearance and raised everted edges clinically resembling malignant ulcers.
- Regional lymph nodes are not affected but subcutaneous granulomas in the inguinal region can be mistaken for enlarged lymph nodes "pseudo-bubo".

Diagnosis: Biopsy reveals the characteristic bacilli within the histiocytes "Donovani bodies".

Treatment:

- Tetracycline: 500mg/6 hours for 21 days.
- Erythromycin: 500mg/6 hours for 21 days.

V. HERPES PROGENITALIS

Causative organism:

- Herpes simplex virus type-2 (HSV-2) causes more than 90% of cases
- HSV-1 is responsible for less than 10% probably related to orogenital sex.

Clinical presentation:

- IP: 2-7 days.
- Genital lesion: Lesion can occur anywhere on the genital with tendency to be peri-orificial i.e. around urethral orifice and anal orifice. Burning sensation usually precedes the appearance of grouped vesicles on an erythematous base. These vesicles either rupture forming superficial erosions or get secondary infected leading to pustule formation. Dryness of the contents of the vesicle or pustule leads to the formation of crusts. Spontaneous healing takes 1-2 weeks but recurrences are common and precipitated by friction (sexual intercourse), psychic stress, etc.
- Regional lymph nodes: usually enlarged and tender.
- Systemic manifestation: The primary attack is associated with constitutional symptoms but recurrences are not.

Complications:

- Recurrences are the most troublesome complication in sexual life.
- Secondary infection.
- Sacral radiculitis.
- Herpes in pregnancy may lead to abortion, congenital and neonatal herpes in the fetus.
- Cancer cervix.
- Systemic dissemination in immuno-compromised patients.
- Diagnosis: tissue culture for virus, PCR, DNA probe, etc

Treatment: Acyclovir local (cream) and systemic (tablets).

STDs Causing urethral discharge

<u>Physiological</u>	<ul style="list-style-type: none"> • <u>Prosemen</u>: 1-2 drops of mucoid discharge are secreted from Cowper and Littre glands during sexual excitation to lubricate the urethra and neutralize remnants of acidic urine. • <u>Prostatorrhea</u>: In unmarried males and in those without regular sexual outlet, the prostate may be congested and full of secretion. This may be expelled during straining at the end of micturition or during defecation.
<u>Pathological</u>	<ul style="list-style-type: none"> • Gonorrhea • Non-gonococcal urethritis

GONORRHEA

Causative organism:-

- Diplococci (pairs)
- Gram negative
- kidney shaped
- Non-motile
- Non-spore forming

Mode of transmission:

1) Sexual contact:

	Primary Site Of Infection	
Heterosexuals	Urethra in males	Urethra & cervix in females
Homosexuals	Urethra in active homo	Rectum in passive homo
Orogenital sex	Urethra	Pharynx

- 2) Asexual transmission e.g.
- Contaminated towels and instruments
 - Contaminated hands.

Clinical Picture:

- *Genital affection in males*
- *Genital affection in females*
- *Extra-genital gonorrhea*
- *Gonorrhea in children*
- *Metastatic gonorrhea*

	Male	Female
Primary site	The anterior urethra (penile urethra). Extension to the posterior urethra (pelvic urethra) is considered as a complication.	Urethra and cervix.
Symptoms	<p>Gonococcal anterior urethritis presents with:</p> <ul style="list-style-type: none"> ▪ Urethral discharge: Profuse purulent greenish yellow ▪ Urethral discomfort ▪ Hyperemia and edema of urethral orifice <p>If infection extends to posterior urethra, there will be:</p> <ul style="list-style-type: none"> ▪ Dysuria ▪ Frequency of micturition ▪ Hematuria, urgency and constitutional symptoms 	<p>50 % of the cases are asymptomatic. Others may have:</p> <ul style="list-style-type: none"> ▪ Mild soreness of the vulva. ▪ Mild dysuria and frequency ▪ Scanty mucopurulent discharge. ▪ Low back pain or lower abdominal pain.
Complications	<p><u>Complications of anterior urethritis:</u></p> <ol style="list-style-type: none"> 1. Tysonitis 2. Littritis 3. Paraurethral gland infection 4. Periurethral abscess 5. Cowperitis 	<ol style="list-style-type: none"> 1. Cystitis 2. Skenitis 3. Bartholinitis, which may proceed to abscess or cyst formation. 4. Salpingitis, oophoritis. 5. Tubo-ovarian abscess. 6. Pelvic peritonitis. 7. <u>Pelvic Inflammatory disease</u>

	6. Balano-posthitis: inflammation of the glans penis and prepuce in uncircumcised patients 7. Urethral stricture <u>Complications of posterior urethritis:</u> 1. Acute prostatitis and prostatic abscess. 2. Seminal vesiculitis. 3. Epididymitis (obstructive infertility follows bilateral cases). 4. Cystitis.	<u>(PID)</u> 8. <u>Fitz-Hugh-Curtis Syndrome:</u> Perihepatitis (inflammation of liver capsule) may follow gonococcal or chlamydial PID. Organisms spread along lymphatics or along peritoneum.
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Extra-genital gonorrhea

- Proctitis.
- Pharyngitis.
- Conjunctivitis.

Disseminated gonococcal infection; - It is a rare complication of neglected gonorrhea occurring mainly in women and manifested clinically by:

1. Dermatitis.
2. Arthritis.
3. Endometritis.
4. Meningitis.
5. Hepatitis.

Diagnosis of gonorrhea

1- Gram stained smear:

- Gram stained smear >> gram-negative diplococci intra and extracellular (within PNLs).
- It is a simple test but useful only in acute gonorrhea in males.
- False negative results are common in females and in chronic gonorrhea in males.

2- Culture: modified Thayer and Martin medium

Indications: Culture is essential for definite diagnosis particularly in:

- Gonorrhea in females.
- Chronic gonorrhea in males.
- Extra genital and metastatic gonorrhea.
- Medico-legal proof.

Colonies confirmatory tests:

- Gram stained smear examination from colonies.

- Oxidase test: Oxidase reagent turns gonococcal colonies black.
- Sugar fermentation test (gonococcus ferments glucose only).

4- Gonozyne test: This is an enzyme immunoassay test designed for detection of gonococcal antigens.

5- Direct immunofluorescence test (most specific and most sensitive test).

6- Serological tests e.g. Complement fixation test.

7- Two-glass urine test: To differentiate anterior from posterior urethritis, the patient is asked to void the first few drops in a flask and the remainder of urine in another one. In anterior urethritis the first glass contains more pus cells than the second glass, while in case of posterior urethritis the two glasses are almost indifferent.

First line therapy for uncomplicated gonorrhea	A single dose of Procaine penicillin 4.8 million units IM is given with 1 gm probenecid orally to delay renal excretion of penicillin.
Patients refusing injection can be given:	<ul style="list-style-type: none"> ▪ Ampicillin single dose of 3.5 gm orally with 1 gm oral probenecid. ▪ Amoxicillin single dose of 3 gm orally with 1gm oral probenecid.
Patients sensitive to penicillin can be treated with:	<ul style="list-style-type: none"> ▪ Erythromycin: 500mg/6 hours for 5 days. ▪ Azithromycin 1gm single oral dose. ▪ Tetracycline: 500mg/6 hours for 5 days. ▪ Doxycycline: 200mg single oral dose.
Patients not responding to penicillin therapy may be having Penicillinase producing gonococci and can be treated with:	<ul style="list-style-type: none"> ▪ Spectinomycin 2gm IM. ▪ Kanamycin 2gm IM. ▪ Cefotriaxone 250 mg IM. ▪ Quinolone: single dose of ciprofloxacin, norfloxacin, or ofloxacin
Disseminated and complicated gonococcal infection:	<ul style="list-style-type: none"> ▪ Hospitalization. ▪ Treatment for 1-2 weeks with higher dose of the previously mentioned drugs.

Non-gonococcal urethritis

1. Chlamydia trachomatis: Serovar D-K
2. Mycoplasma

- Ureaplasma urealyticum
- Mycoplasma hominis
- 3. Trichomonas vaginalis
- 4. Intrameatal lesions e.g.
 - Herpes progenitalis
 - Chancre
 - Lymphogranuloma venerum
 - Condyloma accuminata
- 5. Others
 - Uro-pathogens
 - Stone urethra
 - Oxaluria, etc.

	GONORRHEA	NON-GONOCOCCAL URETHRITIS
Prevalence	Was previously a more common cause of STDs urethritis	Now more common than gonorrhea It contributes to 15-20 % of patients attending STDs clinics.
Causative agent	Neisseria gonorrhea	1- <u>Chlamydia trachomatis</u> : Sero var D,E,F,G,H,I,J,K 2- <u>Mycoplasma</u> : <ul style="list-style-type: none"> ▪ Mycoplasma hominis ▪ Ureaplasma urealyticum 3- <u>Trichomonas vaginalis</u> 4- <u>Intrameatal lesions</u> : e.g. <ul style="list-style-type: none"> ▪ Herpes progenitalis ▪ Chancre ▪ Condyloma accuminata ▪ Lymphogranuloma venerum 5- <u>Others</u> <ul style="list-style-type: none"> ▪ Uro-pathogens ▪ Stone urethra ▪ Oxaluria, etc
IP	2-5 days	Longer IP (1-5 weeks)
Symptoms	Profuse purulent greenish-yellow U.D with dysuria	<ul style="list-style-type: none"> ▪ Scanty mucoid U.D ▪ Urethral discomfort ▪ Frequently asymptomatic
Signs	U.D & hyperemic urethral orifice	Scanty mucoid U.D on urethral milking
Local complications	Complications rate is less than that of NGU as patients usually seek treatment early but in neglected cases they are severe	Complications are more common as the mild symptoms usually lead to neglect or delay of treatment
Systemic complications	<ul style="list-style-type: none"> ▪ DGI ▪ Peri-hepatitis 	<ul style="list-style-type: none"> ▪ Reiter's syndrome (Triad of urethritis, conjunctivitis and arthritis)

		▪ Peri-hepatitis
Gram-stained smear	Gram negative diplococci	Negative
Culture	Modified Thayer and Martin medium	Tissue culture for chlamydia e.g. McCoy cells Gene detection by PCR
Treatment of choice	Penicillin Cephalosporin Quinolones	Tetracycline Macrolides Quinolones

OTHER LOCALLY PRESENTING STDs

CONDYLOMA ACCUMINATA

"Venereal Warts"

Causative organism: Human papilloma virus (HPV).

Clinical presentation: Condyloma accuminata are warty outgrowths that have the following characters:

- Multiple (rarely single).
- Cauliflower-like (usually for penile or external vulval lesions) or flat (usually on mucous membranes of cervix).
- Dry non-oozing.
- Skin-colored or hyperpigmented.
- Variable in size from pinhead-size to large tumor "Buschke Lowvenstein Tumor".

Sites

- In males: penile shaft, pubic area, glans penis, intrameatal, perianal, groin, etc
- In females: Cervix, vagina, vulva, pubic area, perianal, etc

Aggravating factors: Immuno-suppression causes marked increase in the size and number of the lesion as in:

- Pregnancy
- Diabetes
- AIDS
- Immunosuppressive drugs

Complications:

- a. Cancer cervix
- b. Laryngeal papillomatosis: infants may acquire the virus from the maternal passage during labor and develop papilloma in the larynx

Differential diagnosis: condyloma lata (see table).

Diagnosis:

	CONDYLOMA ACCUMINATA	CONDYLOMA LATA
Etiology	HPV	Treponema pallidum
Sites	Any part of genital may be intrameatal	Sites of friction mainly perianal
Infectivity	Infective	Highly infective
Surface	Cauliflower-like	Flat-topped
Color	Skin-colored or hyperpigmented	Grayish-white surface
Aspect	Moist and oozing	Dry
Base	Pedunculated	Sessile
Treatment	Local podophyllin	Penicillin injection

- Cytology: characteristic koilocytes.
- Biopsy.

Treatment:

- Repeated careful painting of the lesions with 25% podophyllin resin in alcohol or in liquid paraffin. This is contraindicated in pregnancy.
- Other chemical cauterizing agents e.g. trichloro-acetic acid.
- Electrocautery and surgical removal are less preferred.
- Intralesional or systemic Alpha-interferon.

MOLLUSCUM CONTAGIOSUM

Causative organism: Poxvirus.

Clinical presentation: this dermatological viral disease can be seen in the hands, face and trunk of children being transmitted by direct contact. In adults, multiple pearly-white papules with characteristic central umbilication develop on the external genital skin and pubic region being transmitted sexually.

Treatment: phenol cauterization and curettage.

Systemically presenting STDs

ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

Etiology

Causative Organism

AIDS is caused by human immune-deficiency virus (HIV), which belongs to the retrovirus group, characterized by the presence of reverse transcriptase enzyme, which converts the viral RNA into DNA within the infected cell. There are 2 types of HIV:

- HIV-1 is responsible for most AIDS cases in western countries.
- HIV-2 is responsible for most AIDS cases in West Africa.

Modes of Transmission

The virus is present in the blood, semen and vaginal/cervical secretion of infected persons. It is transmitted to non-infected persons via:

1- Sexual transmission: Sexual intercourse (homosexual and heterosexual) involving anal intercourse, vaginal intercourse and/or orogenital sex can transmit HIV from infected persons.

2- Donation procedures:

- Blood transfusion.
- Organ transplantation.
- Contaminated needles and syringes.
- Contaminated razors (barbershops).

3- Transplacental: from an infected mother to her child.

NB: Unproven modes of transmission include mosquito bites, non-sexual contact, cough, sneeze, food.

Risk groups

- Homosexuals.
- Female partners of homosexual (bisexual) men.
- Prostitutes and promiscuous individuals.
- Intravenous drug abusers.
- Patients needing repeated blood transfusion e.g. hemophiliacs.
- Organ transplant patients.
- Occupational: Surgeons, laboratory and other medical personnel.

Pathogenesis

- Lymphocytes are the main cells of the immune system.

- They are of two main types, the B-lymphocytes (mainly responsible for humoral immunity) and the T-lymphocytes (responsible for the cell mediated immunity).
- The T-lymphocytes are either helper T-lymphocytes or suppressor T-lymphocytes.
- The virus selectively attacks the CD₄ receptors on the T-helper lymphocytes leading to their destruction and immune deficiency.
- The immunological defect makes the patient susceptible for certain types of protozoal, fungal, viral, bacterial and parasitic infections (opportunistic infections) in addition to certain malignant disorders (Kaposi sarcoma).

Clinical presentation

Following an incubation period of variable duration, the disease passes by the following stages:

1. Acute retroviral stage:

In 10% of infected persons, glandular fever-like symptoms occur concomitant with sero-conversion.

2. Asymptomatic stage:

The patient is clinically free but serologically positive and infectious.

3. Persistent generalized lymphadenopathy:

All lymph nodes especially the cervical and axillary groups show mobile, non-tender enlargement.

4. AIDS-related complex

5. Full blown AIDS

AIDS is characterized by opportunistic infections and Kaposi sarcoma and other malignant disorders. A wide range of clinical conditions hardly makes the diagnosis direct or classic.

Clinical case definition: at least 2 major criteria and at least two minor criteria in absence of a known cause of immuno-suppression.

Major criteria	Minor criteria
<ul style="list-style-type: none"> ▪ Weight loss more than 10 %. ▪ Diarrhea for more than 1 month. ▪ Fever for more than 1 month. 	<ul style="list-style-type: none"> ▪ Cough for more than 1 month ▪ Generalized pruritic dermatitis ▪ Recurrent herpes zoster ▪ Chronic disseminated herpes simplex ▪ Oropharyngeal candidiasis ▪ Generalized lymphadenopathy

N.B: Either Kaposi sarcoma or cryptococcal meningitis is sufficient by itself to diagnose AIDS.

Neurological Manifestations:

- HIV encephalopathy and myelopathy.
- Encephalitis, meningitis or retinitis.
- Space-occupying lesions (tumors, opportunistic infections).

Respiratory Manifestations:

- Pneumocystis carinii pneumonia (commonest opportunistic infection)
- T.B
- Pulmonary Kaposi sarcoma.

Gastrointestinal Manifestations

- Opportunistic infections e.g. monilial infection, Stragylolds stercoralis infestation etc.
- Malignancy e.g. Kaposi sarcoma.

Hematological Manifestations: Lymphomas e.g.

- Cerebral lymphoma.
- B-cell lymphoma.
- Burkit's lymphoma.

Dermatological manifestations

- Seborrhoeic dermatitis-like lesions (most common).
- Viral diseases:
 - a) Oral hairy leucoplakia (Epstein Barr virus),
 - b) Chronic ulceration especially peri-anal (herpes simplex),
 - c) Multi-dermatomal bullous and ulcerative lesions (herpes zoster),
 - d) Genital and common warts (human papilloma virus),
 - e) Molluscum contagiosum, etc
- Bacterial diseases: folliculitis, syphilis.
- Monilia: oral thrush, angular stomatitis.
- Kaposi sarcoma: Violaceous nodules and plaques commonly affecting lower limbs and oral mucosa.
- Basal cell carcinoma, squamous cell carcinomas and melanomas.

Laboratory DiagnosisDetection of HIV antibodies

HIV antibodies are detectable 4-8 weeks after exposure to the virus.

- Screening test: ELISA
- Confirmatory test: Western Blot Test

Detection of HIV

- HIV antigen tests: mainly used for detection of HIV core antigen p24 (limited application).
- HIV culture.

Treatment

Prophylaxis e.g.

- General community measures against illegal sexual practices
- Sex education about AIDS and its modes of transmission
- Screening of blood donors
- Strict measures against drug addiction
- Laboratory precautions in handling specimens of AIDS patients
- Surgery candidates should have a preoperative screening for AIDS and surgeons must take their operative safety precautions.

General measures

- Hospitalization and isolation

Treatment of infections: e.g.

- Pneumocystis carinii pneumonia: Pentamidine and trimethoprim.
- T.B: anti-tuberculous medications.
- Herpes simplex and zoster: Acyclovir and val-cyclovir
- Condyloma accuminata: interferon
- Monilia: Nystatin.

Anti HIV Drugs

- Nucleoside reverse transcriptase inhibitors (RTIs): These drugs Inhibit virus replication through inhibiting reverse transcriptase enzyme e.g. Zidovudine.
- Non-nucleoside reverse transcriptase inhibitors (Non-RTIs): e.g. Nevirapine.
- Protease inhibitors: e.g. saquinavir (prevent cleavage of viral protein precursors).

ANDROLOGICAL EMERGENCY

Acute scrotum

- The acute scrotum presents as testicular pain or swelling and should be considered as a testicular torsion till proved otherwise. Testicular torsion represents a surgical emergency because the likelihood of testicular salvage diminishes with the duration of torsion.
- The age of the patient is important. Testicular torsion is most common

in neonates and post pubertal boys, although it can occur in males of any age.

- The onset and duration of pain must be carefully determined. Testicular torsion usually begins abruptly. The pain is severe, and the patient often appears uncomfortable. Moderate pain developing gradually over a few days is more suggestive of epididymitis or appendiceal torsion.

Diagnosis of Selected Conditions Responsible for the Acute Scrotum :

Condition	Onset	Age	Tenderness	Urinalysis	Cremasteric reflex	Treatment
Testicular torsion	Acute	Early puberty	Diffuse	-ve	-ve	Surgical exploration
Appendiceal torsion	Subacute	Prepubertal	Localized to upper pole	-ve	+ve	Bed rest & scrotal elevation
Epididymitis	Insidious	Adolescence	Epididymal	+ve or -ve	+ve	Antibiotics

	Torsion Testis	Epididymo-orchitis
Age	Neonatal or Pre-pubertal	Any age
History	Sudden move	UTI
Temperature	Normal	Elevated
Scrotal elevation	++ Pain	- Pain
Scrotal Duplex(most important)	Avascular	Hypervascular
Surgical Exploration(Better to open than to miss)	Detorsion of affected testis and fixation of BOTH	Close

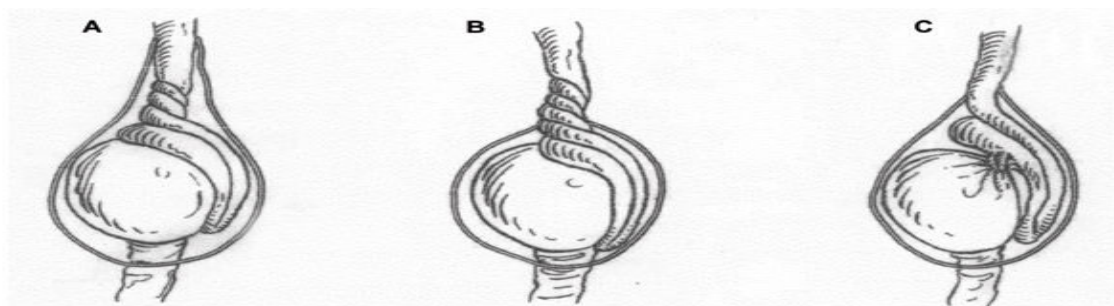
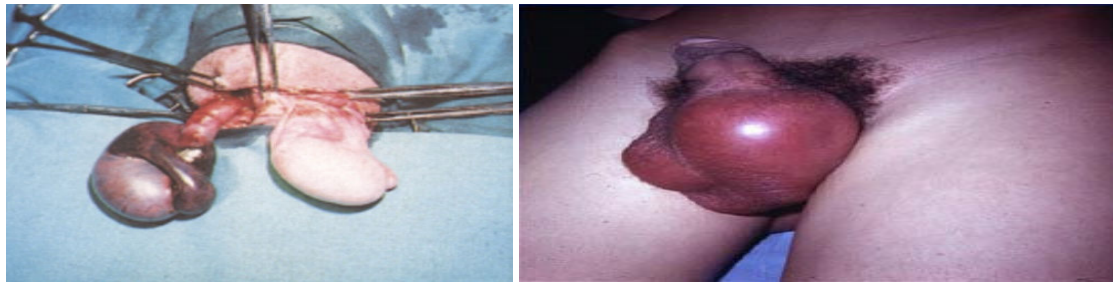


Figure 1 – Classification of types of testicular torsion. A) Intravaginal torsion; B) Extravaginal torsion; C) Torsion due to long mesorchium.



- A history of trauma does not exclude the diagnosis of testicular torsion. Scrotal trauma incurred during sports activities or rough play often causes severe pain of short duration.

Physical Examination

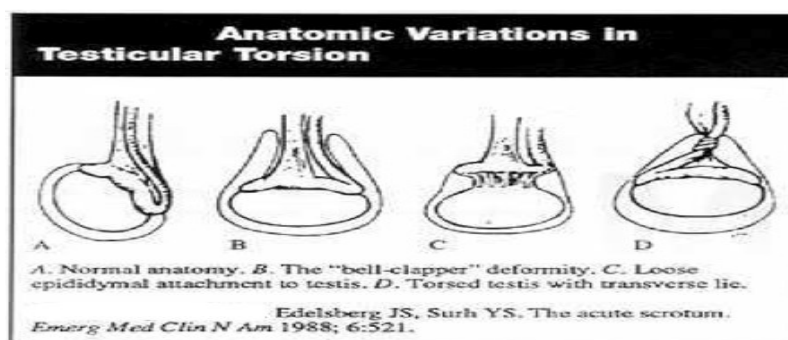
- The physician can often assess the severity of pain by observing the patient before beginning the physical examination.

Diagnostic Studies

- Urinalysis should be performed to rule out urinary tract infection in any patient with an acute scrotum.
- Urgent SROTAL DUPLEX is required to detect testicular vascularity, and so a trial detorsion guided by duplex maybe done but if it failed ,then urgent surgical detorsion with fixation of contralateral testis.

☒ Spermatic Cord Torsion

The "bell clapper" deformity is one underlying cause of testicular torsion in older children. In this deformity, the testicle lacks a normal attachment to the tunica vaginalis and therefore hangs freely. As a result, the spermatic cord can twist.



☒ Torsion of Testicular Appendages

The appendix testis, a müllerian duct remnant located at the superior pole of the testicle, is the most common appendage to undergo torsion. The epididymal appendix, located on the head of the epididymis, is a wolffian duct remnant and may also become twisted.

☒ Epididymitis or Orchitis

Epididymitis in adolescents and young adults is often related to sexual activity and does not present with a urinary tract infection.

☒ Scrotal Trauma

Severe testicular injury is uncommon and usually results from either a direct blow to the scrotum or a straddle injury. Damage occurs when the testis is forcefully compressed against the pubic bones.

(1) Penile fracture

- Penile fracture is the traumatic rupture of the corpus cavernosum.
- Traumatic rupture of the penis is relatively uncommon and is considered andrological emergency.
- Sudden blunt trauma or abrupt lateral bending of the penis in an erect state can break the markedly thinned and stiff tunica albuginea, resulting in a fractured penis. One or both corpora may be involved, and concomitant injury to the penile urethra may occur. Urethral trauma is more common when both corpora cavernosa are injured.
- Penile rupture can usually be diagnosed based solely on history and physical examination findings.

Small penile fracture involving the right corpus cavernosum



- Diagnosis is made based on history and physical examination findings. Most affected patients report penile injury coincident with sexual intercourse
- Patients describe a popping, cracking, or snapping sound with immediate detumescence. They may report minimal to severe sharp pain, depending on the severity of injury.
- Upon physical examination, evidence of penile injury is self-evident. In a typical penile fracture, the normal external penile appearance is completely obliterated because of significant penile deformity, swelling, and ecchymosis (the so-called "eggplant" deformity).



Upon inspection, significant soft tissue swelling of the penile skin, penile ecchymosis, and hematoma formation are apparent. The penis is abnormally curved, often in an S shape. The penis is often deviated away from the site of the tear secondary to mass effect of the hematoma. If the urethra has also been damaged, blood is present at the meatus.

Historically, conservative management was considered the treatment of choice for penile fractures. Conservative therapy consisted of cold compresses, pressure dressings, penile splinting, anti-inflammatory medications, fibrinolytics, and suprapubic urinary diversion with delayed repair of urethral injuries.

Currently, the vast majority of authors favor immediate surgical repair, citing fewer complications, increased patient satisfaction, shorter hospital stays, and better outcomes.

(2) **Priapism**

Priapism is the presence of a persistent, usually painful, erection of the penis unrelated to sexual stimulation or desire. It is a true andrological emergency that may lead to permanent erectile dysfunction and penile necrosis if left untreated. Priapism is frequently idiopathic in etiology but is associated with a number of important medical conditions and pharmacologic agents.

Two types of priapism are generally described:

- a) **Low-flow or Ischaemic (veno-occlusive) priapism** : is usually due to full and unremitting corporeal veno-occlusion where venous stasis and deoxygenated blood pools within the cavernous tissue. Prolonged veno-occlusive priapism results in fibrosis of the penis and a loss of the ability to achieve an erection. Significant changes at the cellular level are noted within 24 hours in veno-occlusive priapism, whereas arterial priapism is not associated with fibrotic change.
- b) **Arterial high-flow or Non ischaemic (arterial) priapism**: usually is secondary to a rupture of a cavernous artery and unregulated flow into the lacunar spaces. This rare type of priapism is usually not painful and results from penetrating penile trauma or a blunt perineal injury.

Low-flow or ischemic priapism	High flow or Non ischemic priapism
<ul style="list-style-type: none"> • most common. • Penis fully erect (sludging of blood within). 	<ul style="list-style-type: none"> • less common. • Penile, perineal or pelvic trauma. • Uncontrolled arterial inflow directly

- | | |
|--|---|
| <ul style="list-style-type: none"> • Painful sec to tissue ischaemia and smooth muscle hypoxia (compartment syndrome) . • Blood gases from corpora – acidosis. | <ul style="list-style-type: none"> • into the penile sinsoidal spaces. • usually penis not fully erect and painless. • often prolonged history. • normal local blood gases. |
|--|---|

Causes:-

- Medications :
 - Only rare case reports of Sildenafil have been associated with priapism.
 - Some patients may use injectable medications to induce an erection. In these patients, excessive use may produce priapism.
 - Many psychotropic medications such as chlorpromazine, trazodone, quetiapine, and thioridazine have been associated with priapism. The newer agents are not immune to this complication.
 - Rebound hypercoagulable states with anticoagulants such as heparin and warfarin have been associated.
 - Cocaine, marijuana, and ethanol abuse .
- Sickle cell disease and thalassemia
- Leukemia and multiple myeloma.
- Trauma (pelvic, genital, or perineal).
- Neoplastic (may be primary or metastatic)
- Rarely, cases of idiopathic priapism have also been reported.

Treatment/Management :-**Ischemic Priapism**

1. Therapeutic aspiration (with or without irrigation) under strict aseptic precautions as blood is good culture for infection.
2. Aspiration of 20ml/10minutes for 5 times (maxiumn 100 ml).
3. Intracavernous injection of sympathomimetics (e.g. ephedrine).Monitoring of pulse and blood pressure to avoid side effects of sympathomimetics.
4. Systemic treatment of underlying disease (e.g., sickle-cell disease) plus intracavernous treatment for patients with underlying disorders or hematologic pathology .
5. Gonadotropin-releasing hormone (GnRH) agonists or antiandrogens.
6. Intercavernosal self-injection of phenylephrine
7. Surgical shunts, including distal shunts (e.g., Winter, Ebbehøj, and Al-Ghorab procedures); the cavernospongious shunt (i.e., Quackels procedure); and cavernosaphenous shunt (i.e. Grayhack procedure)

Nonischemic Priapism

1. Observation as initial management technique.
2. Arterial embolization using autologous clot and absorbable gels.
3. Surgery performed with intraoperative color duplex ultrasonography.

INGUINO-SCROTAL SWELLINGS

Testis related	Epididymis related	Spermatic cord Related	Tunica vaginalis related	Skin related	Others
<ul style="list-style-type: none"> Orchitis Torsion Tumor 	<ul style="list-style-type: none"> Epididymitis Spermatocele tumor 	<ul style="list-style-type: none"> Varicocele Hydrocele 	<ul style="list-style-type: none"> Hydrocele Hematiccele Chylocele tumor 	<ul style="list-style-type: none"> Sebaceous cyst Angeoedema Tumor 	Hernia

SPERMATOCELE

- Spermatocele is a cyst that arises from the epididymal head
- It presents by a painless scrotal swelling above the testis with a characteristic figure of "8"
- It is usually small but may be large and looks like a third testis.
- It may contain spermatozoa.

ACUTE EPIDIDYMO-ORCHITIS**Etiology**

Causative organisms:

1. Uropathogens e.g. E.coli, proteus, pseudomonas, etc
2. STDs pathogens e.g. gonococci, chlamydial, mycoplasma, etc
3. Pyogenic organisms e.g. strept, staph, etc

Route of infection:

- Ascending infection from lower urogenital infection (urethritis, prostatitis, cystitis) via the lumen of the vas. This may occur after straining or after instrumentation
- Hematogenous spread from septic foci

Pathology

- Inflammatory reaction usually starts at the cauda epididymis (if the spread is along the vas) or less commonly in the caput (if spread is hematogenous).
- In either case, inflammation soon spreads to affect the whole epididymis, which will be the seat of catarrhal or suppurative inflammation.
- Secondary small hydrocele is present. Untreated cases may develop pyocele leading to testicular atrophy.
- Epididymal obstruction may occur due to post-inflammatory fibrosis.

Clinical picture

Symptoms

- Urinary symptoms (related to the cause)

- Constitutional symptoms: fever, ...
- Acute scrotal pain

Signs

- Scrotal skin is red and edematous
- Epididymis and testis are enlarged and tender
- Secondary hydrocele may be present.

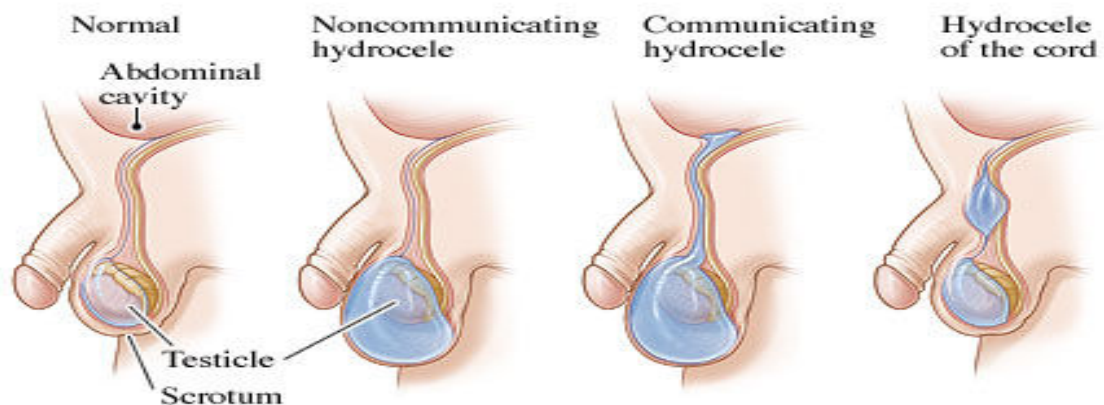
Treatment

1. Scrotal support to elevate the scrotum and reduce pain
2. Antibiotics for 2 weeks according to urine culture and sensitivity
3. Analgesics and urinary antiseptics
4. Incision and drainage if pyocele develops

HYDROCELE

A hydrocele consists of a collection of clear serous fluid in the tunica or processus vaginalis.

Congenital	Acquired
<ul style="list-style-type: none"> • Vaginal hydrocele • Infantile hydrocele • Congenital hydrocele • Encysted hydrocele of the cord 	<ul style="list-style-type: none"> • Primary hydrocele • Secondary hydrocele (Acute/Chronic)



Pathogenesis

- Defective absorption of tunical fluid (most common)
- Excessive production of fluid within the sac (secondary hydrocele)
- Interference with lymphatic drainage
- Direct connection with peritoneal cavity (congenital)

Diagnosis

- Rounded cystic non-tender scrotal mass

- Trans-illumination is positive.
- The congenital type is better called communicating hydrocele as it is caused by patent processus vaginalis, where the cystic mass is soft in the morning and tense at night.
- Scrotal ultrasonography (to reveal the condition of the testis and epididymis)

Complications

- a) Infertility is rarely caused by hydrocele but may occur due to:
 - Impaired testicular thermoregulation
 - Compression of testicular vessels
 - Large hydrocele may mechanically interfere with coitus
- b) Hematocele (usually post-traumatic)
- c) Hernia of the hydrocele sac

Treatment: Treatment not usually required unless:

- ☒ Hydrocele is secondary
- ☒ Very tense hydrocele
- ☒ Mechanical or cosmetic reasons

Primary hydrocele

- Congenital hydrocele requires high ligation of the patent processus vaginalis at the internal inguinal ring and excision of the distal sac.
- In adults, the hydrocele sac is simply opened then merely stitched to collapse the wall "Lord's operation" or subtotal excision is done with tunical eversion.

Secondary hydrocele

- Medical treatment for epididymo-orchitis
- Orchidectomy for malignant tumors.

ANDROLOGY-RELATED DISORDERS

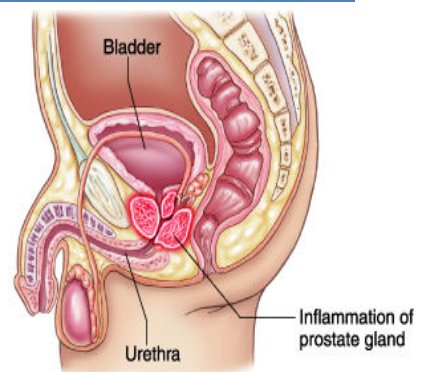
PROSTATITIS

Prostatitis is inflammation of the prostatic gland, which is commonly associated with a concomitant affection of the seminal vesicles when the condition is referred to as prostatic-vesiculitis.

ACUTE PROSTATITIS

Causative organisms:

- Uro-pathogens e.g. *E. coli*, *Pseudomonas* and *Proteus*



- STDs pathogens e.g. Gonococci and chlamydia
- Others e.g. strept and staphylococci

Mode of infection:

- Direct from prostatic urethra
- Blood spread from a septic focus
- Lymphatic spread from the rectum or bladder

Symptoms:

- Constitutional symptoms: e.g. fever and malaise
- Pelvic pain (perineal, suprapubic, rectal or low back pain)
- Severe urinary symptoms (frequency, dysuria up to retention)

Signs: PR examination shows a swollen markedly tender prostate

Complications:

- Retention of urine
- Prostatic abscess
- Spread of infection
- Chronicity

Treatment:

- General: Bed rest, analgesics and anti-inflammatory
- Antibiotics: systemic penicillin (or cephalosporin) in combination with aminoglycosides
- Abscess: Transurethral or transperineal drainage
- Urine retention: suprapubic cystostomy

CHRONIC PROSTATITIS

Causative organisms: E. Coli, Klebsiella, pseudomonas, enterococci, proteus, Chlamydia trachomatis, ureaplasma, staph and streptococci.

Clinical picture: Asymptomatic cases are frequent.

- Urinary symptoms: frequency and dysuria
- Pain: perineal, suprapubic, urethral, testicular or low back pain
- Urethral discharge (prostatorrhea and morning drop)
- Sexual symptoms: premature ejaculation, painful ejaculation and hemospermia if there is associated seminal vesiculitis
- Infertility (functional, immunological or partial obstruction)
- PR examination reveals enlarged, firm, tender prostate.

Investigations:

1) Microscopic examination of the expressed prostatic secretion (EPS):

Estimation of the PNL-count in the following samples:

- First urine passed
- Midstream specimen
- EPS obtained by prostatic massage
- Urine after prostatic massage

In Prostatitis, PNL count is higher in the EPS and/or the third sample.

2) Culture of the EPS: This is done to demonstrate the causative organism and hence to diagnose the type of chronic prostatitis.

Chronic prostatitis can be classified by examining the expressed prostatic secretion and by bacteriological localization studies into three categories:

1. Chronic bacterial Prostatitis.
2. Chronic non-bacterial Prostatitis.
3. Prostatosis or prostatodynia.

	Symptoms	EPS microscopy	EPS culture
Chronic bacterial prostatitis	Positive	Positive	Positive
Chronic abacterial prostatitis	Positive	Positive	Negative
Prostatodynia	Positive	Negative	Negative

Treatment:

➤ Chronic bacterial prostatitis:

- Antibiotics: The "blood prostatic barrier" allows only few antibiotics to pass to prostatic tissue e.g. erythromycin, co-trimoxazole, tetracycline (doxycycline or minocycline) and quinolones (e.g. ciprofloxacin). Treatment should be continued for 4-12 weeks.
- Prostatic massage (few sittings may help drainage of closed acini and improve the gland vascular perfusion).

➤ Chronic abacterial prostatitis:

- Non-steroidal anti-inflammatory drugs
- Doxycycline

➤ Prostatodynia:

- *Reassurance*
- *Anticholinergic drugs*
- *Tranquilizers*
- *Non-steroidal anti-inflammatory drugs*

Choose the correct single answer

- 1- The following hormone(s) are involved in regulation of spermatogenesis:
 - a. Testosterone
 - b. LH
 - c. FSH
 - d. Prolactin
 - e. All the above
- 2- Testosterone is mainly secreted by:
 - a. Leydig cells
 - b. Peritubular cells
 - c. Sertoli cells
 - d. Germ cells
 - e. B and C
- 3- The main target of FSH is:
 - a. Leydig cells
 - b. Peritubular cells
 - c. Sertoli cells
 - d. Germ cells
 - e. B and C
- 4- The stem cell from which other germ cells originate is:
 - a. Spermatids
 - b. Spermatogonia
 - c. 1ry spermatocytes
 - d. 2ry spermatocytes
 - e. Spermatozoa
- 5- Testicular causes of infertility includes all the following except:
 - a. Klinefelter syndrome
 - b. Sertoli cell only syndrome
 - c. Cryptorchidism
 - d. Anti-hypertensive drugs
 - e. Radiation
- 6- The following infections can cause genital duct obstruction except:
 - a. Gonorrhea
 - b. TB
 - c. Mumps
 - d. Chronic prostatitis
 - e. Chronic epididymitis
- 7- Bilateral undescended testes is associated with:
 - a. Normal semenogram
 - b. Oligoasthenoteratozoospermia
 - c. Asthenozoospermia only
 - d. Necrozoospermia only
 - e. None of the above
- 8- Aspermia stands for:
 - a. Absence of sperm head
 - b. Absence of sperm tail
 - c. Total absence of sperms
 - d. Total absence of semen
 - e. None of the above
- 9- Normal semen parameters include all of the following except:
 - a. Volume = 2-5 ml
 - b. Liquefaction time \leq 30 min
 - c. Sperm concentration = 20-250 million/ml

- d. Sperm motility \geq 50% active forward motile sperms after 2 hours
 - e. Abnormal forms \geq 40%
- 10- The following are sure causes of azoospermia except:
 - a. Varicocele
 - b. Sertoli cell only syndrome
 - c. Classic klinefelter syndrome
 - d. Bilateral congenital absence of the vas
 - e. Bilateral cryptorchidism
- 11- Basically the diagnosis of azoospermia depends on :
 - a. Testicular biopsy
 - b. Buccal smear
 - c. Prostatic smear
 - d. Vasography
 - e. None of the above
- 12- The following helps differentiate functional from obstructive azoospermia except:
 - a. Estimation of serum FSH
 - b. Estimation of serum LH and testosterone
 - c. Clinical scrotal exam.
 - d. Scrotal US
 - e. Testicular biopsy
- 13- Estimation of serum FSH is indicated for:
 - a. All infertile males
 - b. Oligozoospermic males
 - c. Azoospermic males
 - d. Asthenozoospermic males
 - e. Teratozoospermic males
- 14- The following are therapeutic options for azoospermic males except:
 - a. Epididymovasostomy
 - b. Vasovasostomy
 - c. IUI
 - d. TESE-ICSI
 - e. Gonadotropin therapy
- 15- Causes of oligozoospermia may include the following except:
 - a. Varicocele
 - b. Partial ejaculatory duct obstruction
 - c. Unilateral undescended testis
 - d. Excess heat exposure
 - e. Antisperm antibody
- 16- The mechanism by which varicocele causes infertility:
 - a. Disturbed testicular thermoregulation
 - b. Regurgitation of adrenal metabolites
 - c. Epididymal dysfunction
 - d. All the above
 - e. None of the above
- 17- The commonest semen abnormality seen in infertile patients with varicocele is:
 - a. Necrozoospermia
 - b. Oligoasthenoteratozoospermia
 - c. Azoospermia
 - d. Leucocytospermia

- e. Polyzoospermia
- 18- In patients with varicocele semen abnormalities are present in :**
- All patients
 - The majority of patients
 - Some patients
 - Very few patients
 - No patients
- 19- Asthenozoospermia:**
- Abnormally low sexual desire
 - Abnormally weak erection
 - Abnormally weak orgasm
 - Abnormally low sperm motility
 - Abnormally low sperm functions
- 20- Asthenozoospermia may be caused by all the following except:**
- Partial and unilateral genital obstruction
 - Immotile cilia syndrome
 - Chronic prostatitis
 - Immune infertility
 - Varicocele
- 21- The following are possible causes of hemospermia except:**
- Bilharzial seminal vesiculitis
 - Filarial funiculitis
 - Prostatic calculi
 - Hemophilia
 - TB prostatitis
- 22- The following conditions can be helped by ICSI except:**
- Resistant oligozoospermia
 - Resistant asthenozoospermia
 - Resistant teratozoospermia
 - Azoospermia
 - Anorchia
- 23- ED is defect in which stage of sexual response cycle:**
- Excitation stage only
 - Excitation and plateau
 - Resolution stage only
 - Resolution stage and refractory period
 - Excitation and resolution stages
- 24- Penile erection is caused by vascular changes in:**
- Corpus cavernosum and its crura
 - Corpus spongiosum and bulb
 - Glans penis
 - A and b
 - B and c
- 25- Concerning erection all the following are true except:**
- It is a hemodynamic phenomenon
 - Evoked by smooth muscle relaxation
 - Vasodilatation of cavernosal arteries is mediated by somatic innervation
 - Passive venoocclusion occurs during erection
 - NO is the main neurotransmitter
- 26- The excitation phase of the female sexual response cycle include all the following except:**
- Vaginal transudation
 - Clitoral congestion
 - Nipple erection
 - Increase in heart rate
 - Rhythmic contraction of pelvic floor and perineal muscles
- 27- The refractory period of the male sex response cycle is affected by:**
- Age
 - General health
 - Psychogenic state
 - All the above
 - None of the above
- 28- Regarding the etiology of ED the following statement is the most appropriate:**
- Psychogenic factors are only responsible
 - Organic factors are only responsible
 - Psychogenic etiology predominates the organic
 - Organic etiology predominates the psychogenic
 - Psychogenic and organic factors are almost equally responsible
- 29- The single most important organic factor to cause ED is:**
- Atherosclerosis
 - Hyperprolactinemia
 - DM
 - Disc prolapse
 - Drug induced
- 30- Psychogenic ED may be characterized by all the following except:**
- Sudden onset
 - Intermittent course
 - Presence of morning erection
 - Usually associated with premature ejaculation
 - Affects young age group more than old group
- 31- The following are causes of organic ED except:**
- DM
 - Liver cell failure
 - Antihypertensive drugs
 - Spinal cord injury
 - Traumatic first coital experience
- 32- The agent to use during ICI test with least side effect is:**
- PGE1
 - Papaverine
 - Ephedrine
 - Atropine
 - Phentolamine
- 33- Arteriogenic ED may be characterized by all the following except:**

- a. Gradual onset
 - b. Progressive course
 - c. Loss of morning erections
 - d. Normal nocturnal penile tumescence
 - e. Poor response to PGE1 injection
- 34- DM can cause impotence by the following mechanisms except:**
- a. Diabetic neuropathy
 - b. Atherosclerosis
 - c. Microangiopathy
 - d. Psychogenic factors
 - e. Insulin therapy
- 35- The most reliable diagnostic test to differentiate organic from psychogenic ED is:**
- a. Estimation of FSH, LH, PRL and testosterone
 - b. Rigiscan
 - c. Duplex US of cavernosal arteries
 - d. ICI
 - e. Biothesiometry
- 36- The following investigations may help in the diagnosis of ED except:**
- a. NPT monitoring
 - b. Duplex test
 - c. Hormonal test
 - d. ICI test
 - e. Scrotal US
- 37- The squeeze technique is sex therapy method used in the ttt of :**
- a. ED
 - b. Premature ejaculation
 - c. Retarded ejaculation
 - d. Retrograde ejaculation
 - e. Inhibited sexual desire
- 38- Groups at special risk for acquisition of HIV include the following except:**
- a. Sexually promiscuous individuals
 - b. IV drug abusers
 - c. Organ transplant patients
 - d. Alcoholics
 - e. Surgeons, lab personnel and dentists
- 39- HIV identifies and attacks:**
- a. All lymphocytes
 - b. B lymphocytes only
 - c. T helper lymphocytes only
 - d. T- suppressor lymphocytes only
 - e. All body cells
- 40- Methods of HIV transmission includes all the following except:**
- a. Accidental needle stick injury during surgery on HIV positive patient
 - b. Mosquito bite
 - c. Unprotected coitus
 - d. Kissing
 - e. Organ transplantation
- 41- Minor criteria for diagnosis of AIDS include all the following except:**
- a. Cough > 1 month
 - b. Diarrhea > 1 month
 - c. Recurrent herpes zoster
 - d. Chronic disseminated herpes simplex
 - e. Oropharyngeal candidiasis
- 42- Oral manifestations of advanced HIV infection includes all the following except:**
- a. Oral thrush
 - b. Oral hairy leukoplakia
 - c. Perforated palate
 - d. Kaposi sarcoma
 - e. Oral HSV infection
- 43- Opportunistic infections in AIDS includes the following except:**
- a. Candidiasis
 - b. Trichomoniasis
 - c. Condyloma accuminata
 - d. Herpes simplex infection
 - e. Syphilis
- 44- In ttt of opportunistic infections in AIDS the following is true except:**
- a. Pneumocystis carinii pneumonia is treated by pentamidine and trimethoprim
 - b. TB is mainly treated by quinolones
 - c. Herpes simplex and zoster is treated by acyclovir
 - d. Condyloma acuminata is treated by interferon
 - e. Candida is treated by nystatin
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 - c. TB is mainly treated by quinolones
 - d. Condyloma acuminata is treated by interferon
 - e. Candida is treated by nystatin
- 46- The following lesions are infectious except:**
- a. Chancre
 - b. Condyloma lata
 - c. Mucous patches
 - d. Ulcerated gamma
 - e. Snail track ulcer
- 47- The most important test for diagnosis of chancre is:**
- a. Dark ground examination
 - b. RPR test
 - c. Biopsy and histological examination
 - d. VDRL test
 - e. None of the above
- 48- DD of ulcer on genital area includes all the following except:**
- a. Scabies
 - b. Drug eruption

- c. Condyloma acuminata
 - d. Lymphogranuloma venereum
 - e. Herpes simplex
- 49- Syphilis is an STD caused by:**
- a. Gram -ve cocci
 - b. Gram +ve cocci
 - c. Virus
 - d. Fungus
 - e. Spirochete
- 50- The IP of syphilis is:**
- a. Few hours
 - b. 2-20 days
 - c. 9-90 days
 - d. 1-6 months
 - e. 1-3 years
- 51- Modes of transmission of syphilis includes all the following except:**
- a. Sexual contact
 - b. Asexual contact
 - c. Trans-placental
 - d. Food borne
 - e. Blood transfusion
- 52- The following syphilitic lesions are infective except:**
- a. Gummatous ulcer on the lip
 - b. Snail track ulcer
 - c. Corona veneris
 - d. Perianal condyloma lata
 - e. Condom chancre
- 53- Early infectious phase of syphilis is:-**
- a. The first 2 months of infection.
 - b. The first 2 years of infection.
 - c. The primary stage only.
 - d. The secondary stage only.
 - e. Both primary & secondary stages.
- 54- Which of the following best describe syphilitic chancre;-**
- a. Multiple grouped vesicles.
 - b. Large cauliflower mass.
 - c. A single painless ulcer.
 - d. Multiple erythematous plaques.
 - e. Multiple indurated papules.
- 55- The primary stage of acquired syphilis presents by an ulcer characterized by;-**
- a. Usually multiple, painful with indurated base.
 - b. Usually single, painless with soft base.
 - c. Usually single, painless with indurated base.
 - d. Usually multiple, painless with indurated base.
 - e. Usually single, painful with indurated base.
- 56- Secondary syphilis is clinically characterized by the following except;-**
- a. Skin rash.
 - b. Mucous patches.
 - c. Generalized lymphadenopathy.
 - d. Oral candida.
 - e. Constitutional symptoms.
- 57- Skin rash in secondary syphilis can be of any of the following except;-**
- a. Vesiculobullous.
 - b. Macular.
 - c. Papular.
 - d. Papulo-squamous.
- 58- Diagnosis of chancre on the cervix uteri is best done by;-**
- a. Dark ground microscopy.
 - b. Specific serological test of syphilis.
 - c. Non specific serological test of syphilis.
 - d. Culture.
 - e. Tissue culture.
- 59- Screening of blood donors for syphilis is carried out by;-**
- a. RPR.
 - b. TPHA.
 - c. FTA-ABS.
 - d. Dark ground microscopy.
 - e. Any of the above.
- 60- The best "screening" test for syphilis is;-**
- a. TPHA.
 - b. FTA.
 - c. TPI.
 - d. VDRL.
 - e. Dark ground microscopy.
- 61- The following features are true for early congenital syphilis except;-**
- a. Infectious phase.
 - b. Treponema reach the foetus via the placenta.
 - c. Primary stage appears on the genital region.
 - d. Secondary stage manifests mainly by skin rash.
 - e. Early latent stage is asymptomatic.
- 62- Hutchinson's triad is a pathognomonic combination of the following except;-**
- a. Notched upper central incisor teeth.
 - b. Moon molars.
 - c. Interstitial keratitis.
 - d. 8th nerve deafness.
- 63- For treatment of chancre the antibiotic that can be used as single dose is;-**
- a. Procain penicillin.
 - b. Benzathine penicillin.
 - c. Erythromycin.
 - d. Sulphonamide.
 - e. Tetracyclin.
- 64- A pregnant syphilitic woman allergic to penicillin may be treated by;-**
- a. Tetracyclin.
 - b. Erythromycin.
 - c. Sulphonamide.
 - d. Cephalosporin.
 - e. Ampicillin.

65- Gonorrhea in adult woman may be complicated by any of the following except;-

- a. Cystitis.
- b. Skenitis.
- c. Vaginitis.
- d. Bartholinitis.
- e. Salpingitis.

66- All of the following statements regarding Neisseria gonorrhea are true except;-

- a. The drug of choice is ceftriaxone.
- b. Gram negative diplococci.
- c. Incubation period between 2-5 days.
- d. Selective media for growth is Thayer-Martin agar.
- e. VDRL test is diagnostic.

67- The incubation period of gonorrhea is;-

- a. Few hours.
- b. More than ten days.
- c. Between 2-5 days.
- d. Less than 2 days.
- e. Between 9-90 days.

68- The following are causes of urethritis except;-

- a. Trichomonas vaginalis.
- b. Mycoplasma.
- c. Granuloma inguinale.
- d. Chlamydia.
- e. Intra meatal chancre.

69- Which of the following describes the characteristic lesions of genital herpes;-

- a. Multiple grouped vesicles.
- b. A single painless ulcer.
- c. Large granulomatous mass.
- d. Multiple erythematous plaques.
- e. Multiple indurated papules.

70- Viral STDs include the following except;-

- a. Molluscum contagiosum.
- b. AIDS.
- c. Viral hepatitis B.
- d. Herpes progenitalis.
- e. Herpes zoster.

71- Which of the following organisms is most likely to result in non-ulcerated genital lesions;-

- a. HPV.
- b. Calymmatobacterium granulomatis.
- c. Treponema pallidum.
- d. Hemophilus ducreyi.
- e. HSV.

72- Agents causing genital ulcer include the following except;-

- a. HSV-2
- b. HPV.
- c. Hemophilus ducreyi.
- d. Chlamydia.
- e. Klebsiella donovani.

73- Local complications of anterior urethritis in gonorrhea in males include the following except;-

- a. Tysonitis.
- b. Littritis.
- c. Cowpitis.
- d. Skenitis.
- e. Periurethral abscess.

74- Which of the following is the drug of first choice for NG urethritis;-

- a. Ceftriaxone.
- b. Ciprofloxacin.
- c. Amoxicillin-clavulanate.
- d. Doxycycline.
- e. Sulphamethoxazole-trimethoprim.

75- Which of the following chlamydia serotypes is not a cause of non-gonococcal urethritis;-

- a. Serotype C.
- b. Serotype D.
- c. Serotype E.
- d. Serotype F.
- e. Serotype G.

Case; A 23-years-old healthy man has been unable to father a child. He and his wife had a workup for infertility. His wife's reproductive function proved to be normal. On physical examination of the male, both testes were palpable. However, the spermatic cord on the left gave a feeling like a "bag of worms". Laboratory studies show oligospermia.

76- Which of the following conditions is this man most likely to have?

- a. Hydrocele.
- b. Testicular torsion.
- c. Spermatocele.
- d. Varicocele.
- e. Seminoma.

Case:- A 32 years old diabetic man married for 6 years presented with secondary infertility for the last 18 months. Genital examination revealed normal sized testes through the left testicle is slightly smaller and softer than right one. Valsalva's maneuver showed positive thrill on both spermatic cord. Semen analysis showed;-

Sperm concentration	14 million/ml
Sperm motility	35% motile
Sperm morphology	75% abnormal

77- You think this patient is having;-

- a. Oligo-asthenospermia.
- b. Oligo-astheno-teratospermia.
- c. Astheno-teratozoospermia.
- d. Oligo-teratozoospermia.

78- The most probable cause for such case is;-

- a. Cryptorchidism.
- b. Klinefelter syndrome.
- c. Mumps orchitis.
- d. Varicocele.
- e. Diabetes.

Case A 29 years old man presented to an infertility clinic complaining of azoospermia. Local

examination revealed no gross abnormality. FSH level was normal.

79- The most appropriate next step for the management of this case is;-

- Ask for post coital test.
- Refer the patient for assisted conception.
- Perform testis biopsy.
- Try hormonal treatment before starting investigations.
- Ask for fructose in semen.

Case A male patient presented to andrology clinic complaining of primary infertility.

Examination showed normal testicles with bilateral absent vas deferentia.

80- His semen analysis is most likely to be;-

- Teratozoospermia with low semen volume.
- Azoospermia with low semen volume.
- Oligozoospermia with normal semen volume.
- Asthenozoospermia with high semen volume.
- Polyzoospermia with poor motility.

81- Management of this case will be;-

- Hormonal therapy.
- Reconstructive surgery.
- IUI.
- Varicocelelectomy.
- ICSI.

Case;- A newly married male asked you about a reliable method for contraception that he can use by himself as his wife refused to use contraceptive pills.

82- You would suggest;-

- Coitus interruptus.
- Safe period + condom.
- Vasectomy.
- Antiandrogen IM.
- Testosterone IM.

Case;- A 65-years old diabetic patient presented with erectile dysfunction for 3 years. Intra cavernosal injection test failed to induce erection.

83- The most probable mechanism of ED in this case is;-

- Vascular.
- Neurological.
- Endocrinal.
- Psychogenic.
- None of the above.

Case;- A 43years old man came to the emergency because of a 6-hour persistent erection that became painful 2 hours ago. He denied any trauma associated with intercourse. He had no significant medical history and was not taking any medication. On examination, corpora cavernosum were rigid and tender, while the glans and corpus spongiosum were soft. Rectal examination revealed normal prostate.

Urine analysis and blood picture were within normal limits.

84- The most likely diagnosis is;-

- Epididymitis.
- Paraphimosis.
- Penile fracture.
- Priapism.
- Peyronie's disease.

Case;- A 17-Year-old male presented by recurrent scrotal pain radiating inguinally.

85- The following are probable causes except;-

- Varicocele.
- Epididymitis.
- Cystitis.
- Recurrent testicular torsion.
- Ureteric stone.

Case;- A 20-years-old single male presented left scrotal swelling 4 months after left varicocelelectomy operation. He also stated that the size of the swelling is increasing gradually. On examination, left testis could not be felt from the swelling. Transillumination test was positive.

86- The most appropriate diagnosis of this case is;-

- Recurrent varicocele.
- Primary hydrocele.
- Secondary hydrocele.
- Testicular torsion.
- Testicular tumor.

Case; A 27-year-old heavy vehicle driver comes to the office because he is "not feeling well and has been losing weight" during the past few months. He also reports that he is feeling increasingly tired. He drives long hours on his job, smokes heavily, and admits to "moderate" amounts of alcohol intake. He has never seen a doctor before and denies any past medical or surgical history. His temperature is 37.0 C, blood pressure is 110/80 mm Hg, pulse is 70/min, and respiration rate is 16/min. abdominal examination shows a vague abdominal mass in the midline that is not pulsatile and non-tender. Rectal examination is unremarkable. Scrotal examination shows an enlarged right testicle without sensation.

87- The factor in this patient's history and examination that is most helpful for diagnosing the etiology of the abdominal mass is;-

- Alcohol intake.
- His job.
- Non-pulsatile nature of abdominal mass.
- Scrotal examination findings.
- Smoking.

Case;- A 25-year old single man presented with a painless lesion on his penis for 10 days with history of some sexual relation 3 weeks ago. Examination showed a small, non-tender ulcer

having an irregular outline with an indurated base on the coronal sulcus of the penis. The inguinal nodes were bilaterally enlarged but non-tender. Rapid plasma regain (RPR) test and TPFA test were negative.

88- Your next step is to:-

- Consider the case non-syphilitic and give local antibodies.
- Consider the case syphilitic and start penicillin therapy.
- Ask for ground microscopic examination.
- Consider malignancy and take a biopsy.
- Herpes progenitalis is strongly suggested.

Case:- A 30-year-old sexually active man has experienced a burning pain with urination for the past 5 days. On physical examination there's a scant pale yellowish urethral discharge. He's afebrile.

89- He is most likely to be infected with which of the following organisms:-

- HSV.
- Treponema pallidum.
- Chlamydia trachomatis.
- Mumps virus.
- Haemophilus ducreyi.

Case: A single 24-years-old male complaining occasional urethral discharge that may follow urination, defecation and sometimes on straining. The patient denies any sexual relation. Urethral swab for gram stain and culture for N gonorrhea were negative.

90- The most probable cause is:-

- Prosemen due to sexual excitation.
- Physiological prostatorrhea due to sexual congestion.
- Chlamydia urethritis.
- Herpes progenitalis.
- Premature ejaculation.

Case:- A 25-years-old presented with multiple large sized cauliflower-like watry masses on the vulva. Similar lesions were detected on her husband's penis.

91- The most likely diagnose is:-

- Condyloma lata.
- Condyloma accuminata.
- Herpes progenitalis.
- Genital scabies,
- Chancroid.

Case:- A 21-year-old man notes the presence of a lesion on his penis for the past week, on physical examination there's a solitary 0.7 cm diameter circumscribed area of ulceration on the dorsal aspect of his penis just proximal to the glans. This ulcer has a firm erythematous base containing minimal grey exudates.

92- Which of the following is the most cost effective method for laboratory diagnosis of this man's lesion:-

- Darkfield microscopy.
- Cytological smear.
- Tissue biopsy.
- Enzyme immunoassay.
- Microbiologic culture.

Put "True" or "False" :

93- Primary infertility means childless marriage for more than 1 year.

94- Secondary infertility means childless marriage for more than 2 year.

95- Semen analysis must be followed by testicular biopsy in evaluating male fertility potential.

96- Differentiation of obstructive from azospermia is based on clinical examination, serum FSH level and testicular biopsy.

97- In Klienfelter syndrome , FSH is usually low or low normal .

98- Obstructive azospermia complicate some male after mumps.

99- Obstructive azospermia complicate herniotomy in adults more than in children.

100- Obstructive azospermia may lead to elevation of FSH serum level.

101- Some azospermic can father children via TESTE-ICSI.

102- Some azospermic can father children via IUI.

103- Congenital absence of vas deference of the vas deference is associated with low serum volume .

104- Functional azospermia may be corrected by epididymo-vasotomy.

105- Priapism is an aimless erection that persists for more than 6 hours.

106- Erectile dysfunction may lead to retrograde ejaculation.

107- Gonococcal complications may cause obstructive rather than functional infertility .

108- Infertile men are commonly impotent.

109- Large bilateral varicocele may lead ti ED

110- Erectile dysfunction is termed " 1ry " if no cause is found and " 2ry " if a specific cause is identified .

111- ED can lead to depression and vice versa.

112- The most common psychic factor in ED is performance anxiety .

113- The most common organic factor in ED is chronic prostatitis .

114- Gender identity conflict is an interpersonal cause of ED.

115- In diagnosing ED, local examination is more important than history taking .

116- All ED must be screened for blood sugar level and serum testosterone .

- 117- All ED must be screened for serum T3, T4, FSH and LH levels.
- 118- Rigiscan is used in diagnosing the degree of penile rigidity during intercourse.
- 119- NPT monitoring differentiates psychogenic from organic ED.
- 120- The ICI test is based on the VD effect of Sildenafil.
- 121- Sildenafil works best if taken on full stomach 1h before intercourse.
- 122- The erectogenic effects of sildenafil is due to inhibition of phosphodiesterase-5.
- 123- Penile prosthesis is used either simirigid rods or inflatable devices .
- 124- Premature ejaculation is mainly caused by psychogenic factors.
- 125- External vacuum suction devices are designed for treatment of premature ejaculation.
- 126- SSRIs and squeeze technique may help people with premature ejaculation.
- 127- Chancre occurs exclusively on genital organs .
- 128- Infectivity of syphilis is only for the first 2 years of infection .
- 129- Early latent syphilis can be infective by sexual contact.
- 130- Chancre presents by a single, painless and indurated genital ulcer.
- 131- In 2ry syphilis there is G. bilateral symmetrical vesiculo-bullos rash.
- 132- All patients with untreated chancre are VDRL positive .
- 133- All patients with untreated 2ry stage of syphilis are VDRL positive .
- 134- All patients with untreated 3ry stage of syphilis are VDRL positive .
- 135- Generalized lymphadenopathy may occur in AIDS but never in syphilis .
- 136- Vesiculo-bullos rash can occur in 2ry stage of acquired syphilis.
- 137- Late latent syphilis may be infective by blood transfusion .
- 138- Gummatous ulcers are always no-infective.
- 139- Aortic regurge can be a manifestation of cardiovascular syphilis .
- 140- The most infective lesion in syphilis is condyloma accuminata .
- 141- Hutchinson teeth extraction is associated with a risk of syphilis transmitted to the dentist.
- 142- Under dark ground microscopy , T.Pallidum appear as luminescent spiral organism .
- 143- VDRL test may give false +ve results in leprosy.
- 144- TPHA test may give false +ve results in leprosy.
- 145- Benzathine penicillin is the treatment of choice for both syphilis and gonorrhea.
- 146- H.ducreyi causes multiple painful genital ulcers.
- 147- Chlamydia is the causative organism of lymphogranuloma venerum.
- 148- Topical podophylline application is the treatment of choice for condyloma lata.
- 149- HPV infection may predispose to cancer cervix.
- 150- G.lymphadenopathy can be a feature of gonorrhea and 2ry syphilis.
- 151- Early lesions of AIDS appear as genital ulcers.
- 152- The screening test for HIV is western blot test.
- 153- The verulence factor of HIV is reverse transcriptase enzyme.
- 154- Oral hairy leukoplakia is caused by Pox virus.
- 155- Patients with advance HIV usually die from opportunistic infections.
- 156- Kaposi Sarcoma in AIDS ia caused by EBV.
- 157- Asymptomatic HIV infection is non infective by sexual contact.
- 158- AIDS, Syphilis , gonorrhea herpes and condyloma can all be transmitted from an infected pregnant mother to her infant.
- 159- Gonorrhea and Chlamydia urethritis are common opportunistic infections in AIDS .
- 160- Gonococci are more common than chlamydia in causing urethritis.
- 161- Prostatorrhea is a physiological phenomenon , where urethral discharge occurs on straining.
- 162- Gonorrhea may primarily present by urethritis , proctitis , pharyngitis.
- 163- Thayer & Martin medium is diagnostic for the causative organism in non-gonococcal urethritis.
- 164- Perihepatitis may complicate gonococcal and chlamydial PID.
- 165- In prepupertal girls , gonorrhea presents by vulvovaginitis.
- 166- When gonococci disseminate to blood stream they cause dermatitis and arthritis .
- 167- Smear examination is less sensitive than direct immunofluorescence in diagnosing gonorrhea.
- 168- Herpes progenitalis is commonly caused by HSV-2 more than HSV-1.
- 169- Severe constitutional symptoms accompany each attack of HSV-1.
- 170- Zidovudine is the drug of choice for treatment of herpes progenitalis .

171. <i>Sarcoptes mite</i>	a. AIDS
172. <i>Chlamydia urethritis</i> serotypes D-K	b. Syphilis
173. <i>Chlamydia urethritis</i> serotypes L1,2,3	c. Chancroid
174. <i>Calymmatobacterium donovani</i>	d. Herpes progenitalis
175. <i>Hemophilus ducreyi</i>	e. Condyloma accuminata
176. <i>Treponema Pallidum</i>	f. Scabies
177. POX virus	g. Non-gonococcal urethritis
178. HIV	h. Lymphogranuloma venerum
179. HPV	i. Granuloma inguinale
180. HSV-2	j. Molluscum contagiosum
181. Differentiation between psychogenic & organic ED	a. penile duplex US
182. Differentiation between vasculogenic and non –vasculogenic ED	b. ICI test
183. Confirmation of venous leak as a cause of ED	c. Semen analysis
184. Diagnosis of arterial insufficiency as a cause of ED	d. Testicular biopsy
185. Screening test for neurogenic ED	e. Postcoital test
186. Diagnostic test for male fertility potential	f. Examination of postcoital urine
187. Differentiation between functional from obstructive azoospermia	g. Cavernosometry
188. Diagnosis of Klienfelter syndrome	h. Biothesiometry
189. Diagnosis of mechanical infertility	i. Rigiscan
190. Diagnosis of retrograde ejaculation	j. Karyotyping
191. The commonest cause of oligoasthenozoospermia	a. Mumps
192. The commonest congenital cause of mechanical infertility	b. Bilateral congenital absent vas
193. The commonest infection to cause functional infertility	c. Immotile cilia syndrome
194. The commonest cause of organic ED	d. Chronic prostatitis
195. The commonest cause of absence of fructose in semen	e. Chronic epididymitis
196. The commonest cause of failed puberty	f. Hypospadias
197. The commonest cause of haemospermia	g. Hypogonadism
198. The commonest organic cause of premature ejaculation	h. Varicocele
199. The commonest acquired cause of obstructive infertility	i. DM
200. The commonest cause of isolated astheozoospermia	j. Bilharziasis

Answers:

1.E	26.E	51.D	76.D	101.T	126.T	151.F	176.B
2.A	27.D	52.A	77.B	102.F	127.F	152.F	177.J
3.C	28.E	53.B	78.D	103.T	128.T	153.T	178.A
4.B	29.C	54.C	79.C	104.F	129.F	154.F	179.E
5.D	30.D	55.C	80.B	105.T	130.T	155.T	180.D
6.C	31.E	56.D	81.E	106.F	131.F	156.F	181.I
7.E	32.A	57.A	82.B	107.T	132.F	157.F	182.B
8.D	33.D	58.A	83.A	108.F	133.T	158.T	183.G
9.E	34.E	59.A	84.D	109.F	134.T	159.F	184.A
10.A	35.B	60.D	85.C	110.F	135.F	160.F	185.H
11.A	36.E	61.C	86.C	111.T	136.F	161.T	186.C
12.B	37.B	62.B	87.D	112.T	137.F	162.T	187.D
13.C	38.D	63.B	88.C	113.F	138.T	163.F	188.J

14.C	39.C	64.B	89.C	114.F	139.T	164.T	189.E
15.E	40.B	65.C	90.B	115.F	140.T	165.T	190.F
16.D	41.B	66.E	91.B	116.T	141.F	166.T	191.H
17.B	42.C	67.C	92.A	117.F	142.T	167.T	192.F
18.C	43.B	68.C	93.T	118.F	143.T	168.T	193.A
19.D	44.B	69.A	94.F	119.T	144.F	169.F	194.I
20.A	45.C	70.E	95.F	120.F	145.F	170.F	195.B
21.B	46.D	71.A	96.T	121.F	146.T	171.F	196.G
22.E	47.A	72.B	97.F	122.T	147.T	172.G	197.J
23.B	48.C	73.D	98.F	123.T	148.F	173.H	198.D
24.A	49.E	74.D	99.F	124.T	149.T	174.I	199.E
25.C	50.C	75.A	100.F	125.F	150.F	175.C	200.C

Important Points

1. Psychogenic erectile dysfunction has

- sudden onset, intermittent course
- morning erection
- normal nocturnal
- full erection in response to PGE1

2. Erectile dysfunction due to artery cause has

- gradual onset, progressive course
- poor response to PGE1
- absent morning erection

3. Drug of choice for ICI is prostaglandin but papaverin and phentolamine may produce priapism

4. 26 years old patient, diabetic, ICI, no erection → duplex is done and it is suggestive of venous leak

- Best treatment for venous leak is penile prosthesis
- If venous leak is treated by venous ligation it is recurrent after 6 months

5. A 29 years old patient has prolonged painful erection for 5 hours

First line of treatment is aspiration and irrigation by cold saline

6. Erection : desire with stimulus and relieved by coitus

priapism : aimless erection and not relieved by coitus

7. If priapism is left up to 12 hours without treatment ischemia will occur which end by fibrosis called post priapism fibrosis.

8. Post priapism fibrosis is treated by penile prosthesis.

9. Treatment of priapism

- first line of treatment is aspiration and irrigation by cold saline for corpora
- if failed ephedrine intracorporal because it is a strong v.c
- if failed surgery is done cavernous spondiosod shunt

10. The first sign of puberty is increase in the longitudinal axis of the testicles.

11. Diabetic patient has secondary infertility, left testis is slightly smaller and softer than the right one this will lead to varicocele.

12. varicocele

- make one testis is smaller and softer than the other
- produce oligospermia count less than 20 million
- produce asthenospermia motility less than 50 y
- produce teratospermia (abnormal forms more than 35 %)

13. Normal volume of semen is 2-5 ml

14. Normal semen is alkaline

15. Picture of absent vas :

- Obstructive azospermia
- Volume of semen is less than 1 ml which represent prostatic secretion that is acidic

16. Treatment of primary infertility due to absent vas is ICI

17. 20 years old single has left scrotal swelling 4 months after varicocelectomy

Complications of varicocelectomy

- a. recurrence
- b. testicular atrophy due to ligation of testicular artery

18. 2ry infertile patient had a history of urinary tract troubles , renal stones , hypospadias and normal testicles : infertility is due to inflammatory obstruction

Renal stones → recurrence of UT infections → most common cause of epididymitis → end by fibrosis in tail of epididymis → obstruction infertility

19. Patient with occasional urethral discharge following urination , defecation and straining this case is called prostaticorrhea.

20. Urethral discharge

- a. may be physiological :
 - 1- prosemen : before semen to lubricate and neutralize acidity
 - 2- prostaticorrhea : due to repeated sexual desire without release
- b. pathological : gonorrhea or non gonorrheal urethritis

21. Chancre : single , painless and indurated

22. Best description of condyloma acuminata is cauliflower like

23. Diagnosis of syphilis :

- +ve dark ground micropscopy...for syphilis
- +ve serological testsis non effective 1ry syphilis used for 2ry syphilis

24. Gumma is non infective

25. 17 years old patient with recurrence of scrotal pain causes :

- a. testicular torsion.....it's an emergency
- b. sexual congestionmost common cause
- c. varicocele
- d. thrombophlebitis in spermatic vein
- e. epididymitis
- f. urethral stone

26. AIDS is transmitted by blood borne routes but not by alcohol

27. Most common cause of E.D. is Diabetes Mellitus

28. 65 years diabetic male, E.D. for 3 years , ICI failed , the cause is

- Vascular
- Organic
- Psychogenic
- None of the above

29. Male married for 6 years with 2ry infertility (pregnancy 13 months) , normal testis , but left smaller , softer, sperms 14 million , motility 35% & morphology 75 % normal

Answer: oligo astheno spermia , oligo astheno terato spermia

30. 43 years old male , 1ry infertility , bilateral absence of vas deferens , decreased semen , acidic , liquid , azospermia → Treatment is ICSI

31. Obstructive azospermia caused by the following except:

- Vasectomy
- Epididymitis
- Obstructive duct
- Bilateral absence of Vas
- Perineal hypospadias

32. 24 years old male , with discharge that follows urination , defecation

The cause is prostaticorrhea

33. Risk of AIDS is increased by the following except:

- Alcohol addiction
- Homosexuals
- Breast feeding
- Heterosexuals

34. Scrotal pain is caused by the following except:

- Epididymitis
- Ureteric stone
- Varicocele
- Cystitis

35. 2ry Stage of syphilis includes the following except:

Generalized Vesicular Rash

36. 25 years female with cauliflower masses similar on husband penis

This is condyloma accuminata

37. Pubic and axillary hair is not a sign of puberty

38. Diabetes Mellitus cause impotence through retrograde ejaculation

39. Aspermia is anejaculation but orgasm is present

MCQ Questions

- 1. The following occur in the excitation stage of female except:**
 - a. vaginal transudation
 - b. congestion of clitoris
 - c. Erection of nipple
 - d. Rhythmic contraction of pelvic floor
- 2. complication of gonorrhea in female includes the following except:**
 - a. arthritis
 - b. Proctitis
 - c. Scenitis
 - d. None of the above
- 3. Lymphoi granuloma venerium is caused by:**
 - a. gram-ve cocci
 - b. Gram+cocci
 - c. gram-ve bacilli
 - d. Gram+ve bacilli
 - e. none of the above
- 4. Non specific tests are characterized by except:**
 - a. good screening tests
 - b. Diagnostic of 2ry syphilis
 - c. Antigen used is treponema extract
 - d. diagnostic of late syphilis
- 5. Trichomonas vaginalis is:**
 - a. gram-ve cocci
 - b. Gram+ve bacilli
 - c. Flagellated protozoa
 - d. virus
- 6. The following cause haemospermia except:**
 - a. hypertension
 - b. blood diseases
 - c. Varicocele
- 7. The treatment of premature ejaculation is by:**
 - a. sedative
 - b. Surgical
 - c. Behavioral
 - d. None of the above
- 8. Bilateral undecided testes can cause:**
 - a. azospermia
 - b. oligospermia
 - c. athenospermia
 - d. none of the above
- 9. The diagnostic method of chancroid:**
 - a. serological
 - b. biopsy
 - c. none of the above
- 10. A case of 2ry infertility with history of ut infection bilateral scrotal swellings & fever the condition ended by bilateral azo spermia Azospermia is due to:**
 - a. diabetes
 - b. Bilateral epididymitis
 - c. varicocele
 - d. None of the above
- 11. The diagnosis of the case above is by:**
 - a. prostatic smear for pus cells
 - b. fracture in semen
 - c. Testicular biopsy
 - d. None of the above
- 12. Treatment of the case is**
 - a. Surgical
 - b. medical
 - c. Sedative
 - d. None of the above
- 13. Semen analysis after half an hour and patient has abnormal forms 20 % he is complaining of**
 - a. Teratospermia
 - b. Oligospermia
 - c. Athenospermia
 - d. A+B
 - e. A+C
- 14. Tender lymphnode involvement occurs in the following except:**
 - a. lymphogranuloma venerium
 - b. granuloma ingiunal
 - c. infected chancre
 - d. chancroid
- 15. Testosterone is secreted by:**
 - a. sertoli cells
 - b. laying cells
 - c. spermatogonia
 - d. all of the above
- 16. Specific tests for syphilis are characterized by except:**
 - a. +ve in early
 - b. used in diagnosis
 - c. become s-ve after complete care
 - d. diagnostic for 2nd stage of syphilis
- 17. Specific tests for syphilis are except:**
 - a. +ve in 100% in late
 - b. +ve in 50% in early syphilis
 - c. the used antigen is treponema pallidum extract
 - d. diagnostic and prognostic

18. The following cause Heamospermia except:
- seminal vesiculitis
 - coagulation defects
 - calculus of seminal vesicles
 - hydrocele
19. Varicocele causes increase :
- in n of abnormal sperms
 - in the n of pus cells in semen
 - in the no and/or motility
 - all the above
20. Bilateral epidydmritis or oorchitis due to mumps may be followed by the following except:
- functional azospermia
 - obstructive azospermia
 - a & b
 - none
21. The following are causes of obstructive azospermia except:
- bilat congenital absence of vasdeferuns
 - cryptorchidism
 - bilateral hemoplashy
22. In the adult male the most commen painless swelling is:
- 1ry varicocele
 - seminoma
 - Epidydmritis
23. Incubation period in syphilis is:
- 9 weeks
 - 90 days
 - 90 weeks
 - 3 weeks
24. In case of male infertility the following investigations are done except:
- testicular biopsy
 - Chromosomal pattern
 - Prostate biopsy
 - Hormonal assay
25. Impotence in diabetes may be due to the following except
- vascular affection
 - Peripheral neuropathy
 - Hormonal disturbances
 - treatment with insulin
26. The cause of functional azospermia are except:
- congenital bilateral absence of vas deference
 - Klinfelter
 - Undescended testes
 - Radiation
27. In semen analysis of infertility
Count 22000/mm³
Motility after 1 hour 70%
Abnormal forms 20%
40 pus cells in HPF , the patient has:
- oligospermia
 - athenospermia
 - pyospermia
 - teratospermia
28. The syphilitic lesions are infective except:
- chancere
 - chondyloma lata
 - mucus patches
 - ulcerative gumma
29. The viral disease are sexually transmitted except:
- h simplex
 - HPV
 - aids
 - condyloma lata
30. In adults gonorrhea affect the following except:
- urethra
 - cervix
 - vagina
 - Bartholin glands
31. These are recurrent ulcers of genetalia except:
- h simplex
 - drug eruption
 - Chancere
 - scabies
 - Pyogenic ulcers
32. Testosterone secretions are under the control of:
- FSH
 - LH
 - Estrogen
 - ACTH
33. Granuloma inguinale is caused by:
- gram -ve bacillus
 - gram+ bacilli
 - gram-ve cocci
 - Gram +ve cocci
 - None of the above
34. 2ry stage of syphilis is presented by the following except:
- generalized lymphadenopathy
 - Hepatomegaly
 - Polymorphic skin rash
 - Condyloma lata
 - Mucus patches
35. Gonococci infection of human male is complicated by the following except:
- Arthritis
 - bactreamia
 - Epidydmritis
 - Skenitis
 - azospermia
36. Impotence may be precipitated by the following except:
- DM
 - Estrogen therapy
 - Androgen therapy
 - Lerichs syndrome
37. The most imp test for diagnosis of syphilitic chancre is
- hanging drop test

- b. Wassermann reaction
 - c. biopsy and histological examination
 - d. none of the above
- 38. Haemospermia may be caused by the following except:**
- a. blood coagulation
 - b. hypertension
 - c. prostatic calculi
 - d. hydrocele
 - e. Seminal vesculitis
- 39. Lines of treatment of rapid ejaculation causing either infertility or sexual problems include the following except:**
- a. artificial insemination
 - b. Surgical correction
 - c. Medical treatment
 - d. Behavioral therapy
- 40. Non specific tests of the syphilis are characterized by the following except:**
- a. good screening tests
 - b. Give 100% +ve results in the 2ry stage of syphilis
 - c. The antigen used is treponema extract
- 41. Bilateral undescende testis is characterized by:**
- a. normal semen gram
 - b. Oligospermia
 - c. Necro spermia
 - d. Athenospermia
 - e. None of the above
- 42. Trichomonus vaginalis organism is**
- a. large virus
 - b. superficial fungus
 - c. Spirochete
 - d. Protozoan
 - e. None of the above
- 43. A male patient presented to an infertility clinic complaining of absence of ejaculation sexual history show that, he experiences orgasm the most suitable clinical term is:**
- a. anorgasmia
 - b. retrograde ejaculation
 - c. aspermia
 - d. azospermia
- 44. A male patient presented to an infertility clinic complaining of 1ry infertility on examination both vas differences were not palpable his semen analysis is most likely to be:**
- a. azospermia with normal semen volume
 - b. asperminas
 - c. Azospermia with low semen volume
 - d. oligospermia
 - e. Azospermia with high semen volume
- 45. The semen analysis of an infertile patient who has bilateral undescended testes is most likely to be:**
- a. azospermia with normal semen volume
 - b. asperminas
 - c. Azospermia with low semen volume
 - d. oligospermia
 - e. Azospermia with high semen volume
- 46. Among the following the least effective group of drugs for treatment of rapid ejaculation is**
- a. androgens
 - b. Sympatholitics
 - c. Sedatives
 - d. Antidepressant
- 47. In 2ry syphilis one would expect:**
- a. most but not all pt to have +ve VDRL
 - b. All pt to have +ve VDRL
 - c. No pt to have +ve VDRL
 - d. None of the above
- 48. Which of the following best describe the characteristic features of genital herpes?**
- a. a single painless ulcer
 - b. Multiple shallow painless ulcers
 - c. Multiple vesicles grouped on erthyematous base
 - d. Multiple indurated papules
 - e. none of the above
- 49. Dark field examination should be performed on :**
- a. suspected gumatous ulcer
 - b. any genital ulcer more than one week duration
 - c. only on oropharyngeal lesions
 - d. only on patients who have positive VDRL
- 50. The male hormone is mainly secreted by :**
- a. leydig cells
 - b. sertoli cells
 - c. peritubular cells
 - d. spermatogenic cells
 - e. none of the above
- 51. A 65 years old diabetic patient of complete erectile failure for the last 3 years which was not responding to medical treatment Doppler examination and papaverine test confirmed the presence of severe arterial**
- a. Insufficiency the most appropriate treatment for him is :
 - b. surgical revascularization
 - c. penile prosthesis implantation
 - d. retry vasodilators
 - e. retry aphrodisiacs
 - f. give combination of aphrodisiacs and vasodilators
- 52. Agents commonly associated with vaginitis affecting adult females include the following except :**
- a. neisseria gonorrhea
 - b. trichomonas vaginitis
 - c. candida albicans
 - d. hemophilus vaginitis
 - e. none of the above
- 53. A pregnant 25 years old female with history of recent abortion presented to agynelological clinic during routine**

investigation RPR test was positive in such case we should

- a. give antisyphilitic treatment immediately
- b. repeat RPR test before considering anything
- c. ask for TPHA and VDRL
- d. ignore the finding
- e. none of the above

54. A 42 years old male complained of a painless scrotal swelling for the last 1 year the following procedures might be helpful for the diagnosis of the case except :

- a. transillumination
- b. surgical exploration
- c. ultrasonography
- d. darkfield microscopy

55. Primary syphilitic ulcers are characterized by the following except :

- a. small and grouped
- b. indurated base
- c. sloping edges
- d. accompanied with inguinal nodes
- e. painless

56. Pituitary hormones which are mainly involved in the regulation of spermatogenesis include the following except :

- a. LH
- b. TSH
- c. FSH
- d. PRL

57. Viral disease which may be sexually transmitted include the following except :

- a. herpes progenitalis
- b. molluscum contagiosum
- c. condyloma lata
- d. hepatitis

58. The following tests are used in the diagnosis of azoospermic cases except :

- a. testicular biopsy
- b. hormonal assay
- c. tests for immobilizing antisperm antibiotics
- d. diabetes mellitus

59. The following are possible causes of aspermia except :

- a. bilateral mumps orchitis
- b. retrograde ejaculation
- c. antihypertensive drugs
- d. diabetes mellitus

60. A patient coming to our clinic complaining of ascrotal swelling dating since 3 years the following procedures are helpful in diagnosing the case except :

- a. transillumination
- b. ultrasound
- c. surgical exploration
- d. ground microscopy

61. Complications of gonorrhea in females includes the following except :

- a. arthritis
- b. skenitis
- c. perihepatitis
- d. tysonitis
- e. meningitis

62. Chancroid is characterized by the following except :

- a. painless genital ulcers
- b. incubation period 1-5 days
- c. causative organism Hemophilus ducreyi
- d. enlargement of inguinal lymph nodes

63. Semen analysis of an infertile male showed a count of about 10.000 spermatozoa per mm the motility was 90% after the first half an hour while abnormal forms were 20% pus cells were over 100/HPF this patient is regarded complaining from

- a. athenospermia
- b. pyospermia
- c. oligospermia
- d. a and b
- e. b and c

CASE:

A single male patient presented to our clinic complaining of urethral discharge 2 days after heterosexual intercourse on examination profuse mucopurulent discharge was present inguinal lymph nodes were free

64. The most probable diagnosis :

- a. syphilis
- b. non specific urethritis
- c. gonorrhea
- d. chancroid

65. The most helpful test in diagnosis

- a. Testicular biopsy
- b. frie's intrademarkal test
- c. smear and culture
- d. wasserman reaction

66. The following syphilitic lesions are infective except

- a. chancre
- b. ulcerated gumma
- c. mucous patches
- d. condyloma lata

67. Spermatogenesis is under the control of :

- a. testosterone
- b. LH
- c. FSH
- d. All of the above

68. Bilateral undescended testis is associated with :

- a. necrospermia
- b. oligospermia
- c. athenospermia
- d. All of the above
- e. none of the above

69. Nonspecific tests for syphilis is characterized by the following except

- a. good screening tests

- b. used to diagnose latent syphilis
 - c. give negative results after successful treatment
 - d. the antigen used is a treponemal extract
- 70. Relapse of gonococcal urethritis is caused by the following except**
- a. reinfection
 - b. inadequate treatment
 - c. the sexual partner is not treated
 - d. associated syphilitic infection
- 71. The drug of choice in treatment of gonorrhea is :**
- a. procaine penicillin
 - b. benzathine penicillin
 - c. tetracycline
 - d. All of the above
- 72. The excitation stage of the female sex response cycle includes the following except :**
- a. vaginal transudation
 - b. nipple erection
 - c. clitoral congestion
 - d. increase in heart rate
 - e. rhythmic contraction of the perineal muscles
- 73. The following are possible causes of aspermia except :**
- a. antihypertensive drugs
 - b. retrograde ejaculation
 - c. bilateral mumps orchitis
 - d. anorgasmia
- 74. Trichomonas vaginalis organism is :**
- a. large virus
 - b. spirochete
 - c. superficial fungus
 - d. flagellated
 - e. none of the above
- 75. Bilateral undescended testis is associated with :**
- a. normal semenogram
 - b. oligospermia
 - c. athenospermia
 - d. necrospermia
 - e. none of the above
- 76. Non specific tests for syphilis are characterized by the following except :**
- a. good screening tests
 - b. important for the follow up of the cases
 - c. the antigen used is atreponemal extract
 - d. give 100% positive results in the secondary stage
- 77. Lines of treatment of rapid ejaculation causing either infertility or sexual problems include the following except**
- a. artificial insemination
 - b. surgical correction
 - c. medical treatment by sedatives
 - d. behavioral therapy utilizing special exercises
- 78. Hemospermia may be caused by the following except**
- a. blood coagulation defect
 - b. hypertension
 - c. prostatic calculi
 - d. seminal vesiculitis
 - e. hydrocele
- 79. The most diagnostic test for syphilitic chancre is :**
- a. hanging drop test
 - b. Wasserman reaction
 - c. biopsy and histological examination
 - d. none of the above
- 80. Impotence may be precipitated by the following:**
- a. Diabetes mellitus
 - b. Estrogen therapy
 - c. Leriche's syndrome
 - d. Androgen therapy
 - e. Transverse section of the cord
- 81. Gonococcal infection of human males can be complicated by the following:**
- a. Arthritis
 - b. Azospermia
 - c. Epididymitis
 - d. Bacteraemia
 - e. Skenitis
- 82. Secondary state of syphilis may present by the following except:**
- a. Generalized lymphadenopathy
 - b. Mucous patches
 - c. Polymorphic skin rash
 - d. Condyloma accuminata
 - e. Hepatomegaly
- 83. Lymphogranuloma venereum is caused by:**
- a. Gram negative bacilli
 - b. Gram positive cocci
 - c. Gram negative cocci
 - d. Gram positive bacilli
 - e. None of the above
- Case:**
A male patient complaining of secondary infertility presented to an andrology clinic. He gave a past history of urinary tract infection followed by bilateral scrotal swelling associated with pain and fever. Examination revealed no abnormality except a firm nodule at the tail of epididymis on both sides and a mild left hydrocele. Semen analysis Azospermia.
- 84. The most probable cause of infertility is this case is:**
- a. Obstruction due to congenital cause
 - b. Functional due to genetic factor
 - c. Obstruction of the epididymal duct by post-inflammatory fibrous tissue
 - d. Pressure by the hydrocele fluid
- 85. The most important diagnostic measure in this case is:**

- a. Fructose in semen
 - b. Buccal smear for Barr body
 - c. Testicular biopsy
 - d. Prostatic smear for pus cells
- 86. Management of this case will be:**
- a. Surgical
 - b. Medical
 - c. Artificial insemination husband
 - d. No treatment is available
- 87. A patient 29 years old came to the andrology clinic complaining of weak erection for more than 3 months. the best drug to use during intracorporeal injection (ICI) is**
- a. papaverine
 - b. ephedrine
 - c. testosterone
 - d. prostaglandin E1
 - e. phentolamine
- 88. A 43 years old male present to an infertility clinic complaining of secondary infertility with past history of urinary tract troubles, few years ago. The patient performed 2 kidney stone operations 3 years ago. Examination showed glandular hypospadias ,normal testicles,bilateral epididymal nodules. Semen analysis revealed azospermia with occasional pyospermia. The expected cause of the problem is**
- a. congenital defects
 - b. hormonal changes
 - c. testicular failure secondary to aging
 - d. acquired obstruction
 - e. the cause cannot be explained
- 89. An 18 years old single male came to your clinic complaining of left scrotal swelling which was diagnosed by another doctor as varicocele. The patient was concerned about his future fertility. On examination the patient has normal secondary sexual characters ,bilateral normal size testes ,normal vas deferentia and left varicocele grade 3 , you should inform the patient that infertility due to varicocele may be expected in**
- a. all patients
 - b. some patients
 - c. very few patients
 - d. no patients
- 90. Which statement of the following concerning secondary stage of syphilis is INCORRECT:**
- a. There is generalized lymphadenopathy
 - b. There is non- itchy maculo-papular rash
 - c. The mucus membrane lesion is non-infectious
 - d. Dark field examination reveals treponema pallidum
 - e. TPHA test is positive
- 91. A pregnant 25-years-old female presented to the famous gynecologist Dr. HH complaining of multiple large sized masses on the vulva. The patient stated that her husband had similar lesions on the penis but smaller in size. Examination of the patient revealed multiple cauliflower-like warty lesions that are large in size located on the fourchette and labia minora. Dr. HH diagnosed the case as venereal warts. The post appropriate therapy in this case is:**
- a. Chemical cautery with podophylline
 - b. To induce abortion so as to avoid neonatal infection
 - c. cryocautery of genital warts
 - d. Erythromycin 500mg 4 times/day for 10 days
 - e. Topical antibiotics
- 92. All the following can cause obstructive azoospermia EXCEPT:**
- a. Bilateral absent vas deferens
 - b. Epididymitis
 - c. Perineal hypospadias
 - d. Ejaculatory duct obstruction
 - e. Vasectomy
- 93. The following are considered high risk for transmitting HIV infection EXCEPT:**
- a. sexual intercourse
 - b. Mosquito bites
 - c. Breast feeding
 - d. Blood transfusion
- 94. You are performing a discharge examination on a 1-day old healthy newborn. He was born by a normal spontaneous vaginal delivery at 39 weeks gestation .During the routine physical examination you identify the right testicle , but are unable to palpate the left testicle .palpation of the left inguinal canal does not reveal a mass . The rest of the examination is normal. the most appropriate management at his time is to:**
- a. Do a CT scan of the pelvis to search for an undescended testis
 - b. Follow up as an outpatient and if no testis are present at one year of age , then refer for possible orchiopexy
 - c. Follow up as an outpatient and if no testis is present at ten years of age , refer for possible orchiopexy
 - d. Reassure the parents that this is common and no treatment or follow up is necessary
 - e. Refer for orchiopexy prior to discharge
- 95. A male patient presented to andrology clinic complaining of primary infertility .On examination both vasa deferentia were not**

palpable. His semen analysis is most likely to be:

- Teratozoospermia
 - Aspermia
 - Azoospermia with low semen volume
 - Oligozoospermia
 - Asthenozoospermia
96. The father of a 14-year –old male visited Dr.MR the father was worried about his son having no facial hair. After a short examination Dr.MR assured the father that everything will be fine. The most important sign noticed by Dr.MR was:
- Scanty hair started to grow over the lip
 - The testicular size was enlarged
 - The height of the patient was appropriate for age
 - The axillary hair was present
 - The voice was low pitched
97. The newly married Mr.TZ asked his friend Dr.MR about a reliable method for contraception that he can use by himself for contraception .Mr.TZ added that his wife refused to use contraceptive pills.Dr.MR should offer:
- Vasectomy
 - Condom
 - Safe period
 - Testosterone IM
 - Coitus interrupts
98. 58 years old man comes to the office because of difficulty with erections for the past few years. He says that he has a great relationship with his wife and is still very sexually aroused by her .He is occasionally able to initiate an erection,

but he is unable to sustain it. The remainder of his medical .sexual and psychological history is unremarkable. He takes isosorbide mononitrate for chest pain. His blood pressure is 130/90 mm Hg .Physical examination is unremarkable. Prolactin and testosterone levels are within normal limits .He asks for its "Little blue pill" that is so often heard about .At this time you should:

- Advise him to discontinue the isosorbide mononitrate
 - Explain that he cannot take sildenafil because of his current medication
 - Prescribe sildenafil tablets for him to take an hour before sexual activity
 - Recommend implantation of an inflatable prosthesis
 - Tell him that his erectile dysfunction is psychogenic
99. Psychogenic erectile dysfunction may be characterized by all the following EXCEPT:
- Sudden onset
 - Loss of morning erection
 - Normal nocturnal penile tumescence
 - Good response to PGE1 injection
 - Stationary course
100. A male patient complaining of azospermia and clinical examination shows nothing you must do
- prostate biopsy
 - surgical correction
 - testicular biopsy
 - none of the above

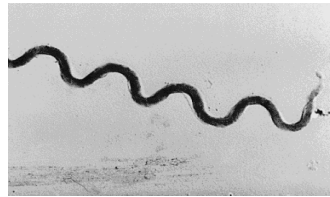
Exam 2012

- 1- HIV attacks the following:
- All lymphocytes
 - Only B lymphocytes
 - Only T-helper lymphocytes
 - Only T suppressor lymphocytes
 - All body cells
- 2- A 29 year old male presented with pain. On examination the penis was ecchymotic, swollen and deformed (Eggplant deformity)
- Testicular torsion
 - Penile fracture
 - Epididimitis
 - Priapism
 - None of the above
- 3- What causes the lesion shown?
- Syphilis
 - Herpes simplex
 - Human papilloma virus
 - HIV
 - Neisseria Gonorrhea



4- Best way to describe this lesion?

- a- multiple, painful with indurated base
- b- single, painless with soft base
- c- Single, painless with indurated base
- d- Multiple, painless with indurated base
- e- Single, painful, indurated base



5- The Father of a 14 year old male visited the doctor worried about his son not having facial hair. After examination the doctor assured him that everything will be fine.

The most important sign noticed by the doctor was:

- a- Scanty hair started to grow over the lips
- b- The testicular size was enlarged
- c- The height of the patient was appropriate for age
- d- The axillary hair was present
- e- The voice was low pitched

6- The following are therapeutic options for azospermic males except:

- a- Epididymovasostomy
- b- Vasovasostomy
- c- IUI
- d- TESE-ICSI
- e- Gonadotropin therapy

7- The orgasmic phase of the female includes the following except:

- a- Followed by a refractory phase
- b- Can be multiple
- c- Consists of multiple contractions of the pelvic floor
- d- Is shortest part of the sexual cycle
- e- None of the above

8- The treatment of ischaemic priapism is best when done

- a- 12-24 hrs
- b- 24-48
- c- 1 hour
- d- < 6 hrs
- e- 3 days

9- The Incubation period of gonorrhea is

- a- 9-90 days
- b- 2-5 days
- c- 2-3 weeks

10- A patient presented to the STDs clinic with urethral discharge 2 days after sexual intercourse. On examination, profuse mucopurulent discharge was present while inguinal lymph nodes were free, Most likely diagnosis:

- a- Syphilis
- b- Chancroid
- c- Non gonorrheal urethritis
- d- Gonorrheal urethritis
- e- prostaticorrhea

11- Arteriogenic erectile dysfunction is characterized by except

- a- Gradual onset
- b- Progressive course
- c- Loss of morning erection
- d- Normal nocturnal penile tumescence

- e- Poor responses to PGE1 injection

12- A single 24 year old male complaining of occasional urethral discharge that may follow defecation and sometimes on straining. The patient denies any sexual relation. Negative cultures for gram -ve neisseria gonorrhea

The most probable cause is:

- a- Prosemen due to sexual excitation
- b- Physiological prostaticorrhea due to sexual congestion
- c- Chlamydia urethritis
- d- Herpes progenitalis
- e- Premature ejaculation

13- All the following can be used in treatment of premature ejaculation except:

- a- Behavioral therapy like squeeze technique
- b- Sex therapy
- c- Antidepressants
- d- SSRIs
- e- Sympathomimetics

14- Diabetes can cause ED by all the following mechanisms except:

- a- Atherosclerosis
- b- Insulin therapy
- c- Psychogenic
- d- Microangiopathy
- e- Peripheral neuropathy

15- Varicocele can cause Infertility by:

- a- Disturbed thermoregulation
- b- Reflux of renal metabolites
- c- Epididymal dysfunction
- d- All of the above
- e- None of the above

16- All of the following statements regarding neisseria gonorrhea are true except:

- a- Ceftriaxone is the drug of choice
- b- Gram -ve diplococci
- c- Incubation period between 2-5 days
- d- Thayer martin is the selective media for culture
- e- VDRL is diagnostic

17- The following conditions can be helped by ICSI except:

- a- Resistant oligozoospermia
- b- Resistant asthenozoospermia
- c- Resistant teratozoospermia
- d- Azoospermia
- e- Anorchia

18- Undescended Testis is best treated by:

- a- 3 years
- b- Before puberty

- c- 1 year
- d- 2 years

19- Testicular torsion is characterized by all except:

- a- Negative urine analysis
- b- Acute onset
- c- Normal temperature
- d- More common in neonatal and pre pubertal age
- e- Pain is relieved by lifting the testicles up

ANSWERS

1.D	17.D	33.A	49.B	65.C	81.E	97.B	12.B
2.B	18.D	34.D	50.A	66.B	82.D	98.B	13.E
3.E	19.A	35.D	51.C	67.D	83.A	99.B	14.B
4.C	20.C	36.C	52.A	68.E	84.C	100.C	15.D
5.C	21.B	37.D	53.C	69.D	85.C	Exam 2012	16.E
6.C	22.A	38.D	54.D	70.D	86.A	1.C	17.E
7.C	23.B	39.B	55.A	71.A	87.D	2.B	18.C
8.A	24.C	40.C	56.B	72.E	88.E	3.C	19.E
9.C	25.D	41.E	57.C	73.C	89.E	4.C	
10.B	26.A	42.D	58.C	74.D	90.C	5.B	
11.C	27.C	43.B	59.A	75.E	91.C	6.C	
12.A	28.D	44.C	60.D	76.C	92.C	7.A	
13.C	29.D	45.A	61.D	77.B	93.B	8.C	
14.B	30.C	46.A	62.A	78.E	94.B	9.B	
15.B	31.C	47.B	63.E	79.D	95.C	10.D	
16.C	32.B	48.A	64.C	80.D	96.B	11.D	

Put T OR F

1.testis is responsible for 70% of erection	F
2.drug of choice for gonorrhea is penicillin	T
3.drug of choice for moniliasis is flagyl	F
4.diabetes cause impotence	T
5.gumma of syphilis is highly infective	F
6.the commonest manifestation of gonorrhea in adult female is vaginitis	F
7.erection in male is mainly sympathetic	F
8.varicocele is usually in the left side	T
9.herpess progenitalis may predispose to cancer	T
10.gynecomastia is a manifestation of xxy syndrome	T
11.flagyl is used in trichomonos	T
12.testes are responsible for 70% of ejaculation	F
13.aids is uncommon in homosexual men	F
14.frits test is used for gonorrhea	F
15.theyer – martin medium is used for trichomonos	F
16.diabetes causes azospermia	F
17.chancer is strictly genital	F
18.granuloma inguinalis is caused by antigen called Donovan bodies	F
19.an infertile male is always impotent	F
20.concomitant infection of syphilis and gonorrhea occurs	T
21.corpora cavernosa are responsible for erection while corpora cavernosa is responsible for ejaculation	F
22.hyperprolactinemia in males may cause impotence	T
23.syphilis cause abortion in the first 3 months of pregnancy	F
24.bartholin glands lubricate the vagina during the coitus	T
25.herpess progenitalis predispose to cancer cervix in adult females	T

26.seminal vesicles contribute for more than 70% of ejaculatory volume	T
27.Trichomonus is treated by flagyl	T
28.Aids is uncommon in homosexual	F
29.lymphogranuloma venereal is caused by a virus	F
30.Concomitant infection by gonorrhea and syphilis can occur at the same time	T
31.Oligospermia mean a sperm count below 20000/mm ³	T
32.the vagina is the main site of affection by gonorrhea in adult female	F
33.Herpes progenetalis may cause cancer cervix	T
34.The female show refractory period after orgasm	F
35.Erection is the main function of corpora cavernous	T
36.The infertile males are always impotence	F
37.DM may cause aspermin	T
38.in all cases varicocele associated with infertility	F
39.Chancier IS STRICTLY ON GENITAL AREA	F
40.crystalline penicillin 12 million unit is the proper treatment for syphilis	F
41.chlamydia TRIC agent is the causative organism of condyloma accuminata	F
42.prostatoreia is a physiological phenomenon	T
43.husband artificial insemination is the best line of treatment in cases of functional azoospermia.	F
44.all males having varicocele are infertile	F
45.hyperprolactinemia in males may cause impotence	T
46.squeeze technique of master and Johnson is a helpful aid in treatment of psychogenic impotence	F
47.congenital syphilis may cause abortion in the first 4 months of pregnancy	T
48.AIDS acquired immunodeficiency syndrome is common in homosexuals	T
49.chancres usually bleed easily	F
50.prostate contributes to more than 70 % of the volume of ejaculate	F
51.the vagina is the main site of affection by gonococci in adult female	F
52.kleinfelter is a cause of obstructive azoospermia	F
53.bilateral absent vas may present by athenospermia	F
54.scabies is a common cause of genital ulceration in EGYPT	T
55.testis contribute to 70% of the volume of ejaculate.	F
56.the drug of choice in gonorrhea is benzathin penicillin.	F
57.gumma of syphilis is highly infectious.	F
58.streptomycin is the drug of choice in clamydial urethritism.	F
59.granuloma inguinale is caused by a protozoan called Donovan bodies.	F
60.AIDS (acquired immunodeficiency disease) is most common in homosexuals.	T
61.herpis progenitals may predispose to cancer cervix in women.	T
62.the vagina is the main site of affection by gonococci in adult women.	F
63.monoliasis is treated by Metronidazole (flagyl).	F
64.bilateral absent vas may present by athenozoospermia.	F
65.Varicocele may cause athenospermia without affecting the sperm count	T
66.Hyperprolactinemia may cause impotence	T
67.Chancres may occur on extragenital area	T
68.Erection is a hemodynamic phenomenon controlled mainly by somatic nerves	F
69.Chancres may be painful	T
70.The excitation phase of the human sex response cycle is of fixed duration for both sexes	F
71.Chronic prostatitis is uncommon complication of gonococcal urethritis	T
72.Non gonococcal urethritis is treated by tetracyclins	T